OUTLINES

OF THE

PRINCIPAL DISEASES OF FEMALES,

CHIEFLY FOR

THE USE OF STUDENTS.

BY

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TO

WILLIAM HARTY, ESQ. M. D.,

HONORARY FELLOW TO THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND,

AS A GRATEFUL ACKNOWLEDGMENT

OF HIS LONG AND UNVARYING KINDNESS

TO THE AUTHOR.

PREFACE.

If any apology be necessary for the publication of the following work, the author trusts that it will be found in the circumstance, that a treatise on the diseases of females, adapted equally for junior and senior students, is yet a desideratum in our medical literature.

Many valuable monographs we possess, and even volumes of admirable essays on this subject; but the former are so scattered as to be out of the reach of the greater number of students, and the latter so little elementary as to be unsuitable except for the more advanced.

To meet these objections, it has been arranged, in the present volume, that the *text* shall contain an ample outline of the history, pathology, symptoms and treatment of the diseases, without any detail of controversies or conflicting opinions, which are given in full in the *notes* appended to each page; so that the junior student, by confining his attention to the text, may acquire elementary information, which may be subsequently extended by consulting the notes and references.

In the notes, likewise, will be found extracts from the various authors, wherever the support of their opinions seemed desirable. I have preferred giving their views in their own words, as being less liable to be mistaken.

Where extracts were not deemed advisable, references have been given, and considerable care has been taken to have them correct.

Any remarkable and authentic cases, which bear upon the subject, have been inserted, for the double purpose of elucidation and description.

Altogether, it is earnestly hoped that the matter contained in the notes, as well as the text, may be found useful, and that by the division the progress of the student may be facilitated.

From the sketch just given, it will be evident that the volume

has no higher pretension than that of being a compilation, with the addition of whatever information I may have acquired from hospital or dispensary practice. I have endeavoured to ascribe each opinion to its true author, and to appropriate none that are not strictly my own.

If, however, any mistakes have occurred,—and in a work like the present it is very possible,—I shall thankfully receive intimation of such errors, and shall take the earliest opportunity of correcting them.

There yet remain two classes of the diseases of females not included in the present volume, viz. those occurring during gestation, and in childbed. These will form the subjects of another volume, should the plan of the present one be approved.

In conclusion, I would offer my best thanks to those friends who have aided my investigations, by affording me access to the patients under their care, and especially to the medical and surgical officers of the Meath Hospital; to Dr. Croker, of the Incurable Hospital; to Surgeon Ferrall, of St. Vincent's; and to Dr. Hunt, of Jervis-street Hospital.

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OUTLINES

OF THE

PRINCIPAL DISEASES OF FEMALES.

PART I.

DISEASES OF THE EXTERNAL ORGANS OF GENERATION.

CHAPTER I.

PHLEGMONOUS INFLAMMATION OF THE EXTERNAL LABIA PUDENDI.

This disease consists essentially in inflammation involving the cellular tissue beneath the skin, as well as the skin itself. It attacks females of very different ages, according to the peculiar circumstances in which it originates. It occurs occasionally during pregnancy, without any assignable cause; and after delivery, from the pressure of the child's head, in its passage through the lower outlet. The disease may occupy one or both of the labia.[1] Blows, falls, forcible intercourse, injuries of any kind may excite it; or it may be the development of a general disposition to inflammatory action.

The *symptoms* are—heat, swelling, redness, and throbbing pain in the part, extending to the groin, (where it sometimes excites sympathetic bubo,) and down the thigh, and which is aggravated by motion.

On examination, one or both labia are found to be enlarged—a

[1] In our examinations of diseases of the external organs, we should always bear in mind the congenital malformations to which these parts are subject. The labia and nymphæ may be of very different sizes, and one side may be much larger than its opposite. The clitoris may be unusually prominent —(in infants it is always proportionately more so than in adults,)—the orifice of the vagina may be smaller than usual—it may be closed by adhesion of its sides or by the hymen—or it may be altogether wanting. In the latter case, the vagina itself is frequently absent.

circumscribed hardness is felt—the part is exquisitely tender—and a blush of inflammation is generally evident.

If its progress be not checked, matter is speedily formed—the tumour becomes softer—and points at some part; and, if let alone, will open spontaneously.

Diagnosis. The disease may be distinguished from *hernia* by the greater hardness of the swelling, and its more circumscribed character. It is not increased by coughing, and is not reducible.

From *sanguineous tumefaction of the labia*[1] by the limitation of the tumour—the intense pain—and by the previous history of the attack.

From *œdema of the labia*[2] by the limitation—the pain—and the inflammatory blush.

The *treatment* is simple, and generally successful. If we are called to the patient at an early period of the disease, we may possibly be able to arrest its progress by venesection, or the application of a number of leeches to the part, in proportion to the severity of the symptoms, followed by emollient poultices and the exhibition of a brisk purgative. If suppuration be established, the leeches may be omitted, and the question of puncturing the abscess, or leaving it to nature, must be decided. Denman and Burns advise the latter, but Waller, Boyer, Boivin and Dugès,[3] and Mackintosh,[4] prefer the former plan. Blundell[5] prefers the spontaneous rupture of the abscess, unless where the accumulation of matter causes great suffering: in such cases, he recommends a small opening with the lancet. At all events, by making a free incision as soon as matter is formed, we prevent it burrowing and forming fistulous

[1] *Sanguineous tumefaction of the labia* occurs, during labour, from a rupture of some of the vessels of the part, by the pressure of the child's head. It comes on suddenly—is harder or softer, according to the amount of effusion—and imparts a diffused reddish tinge to the skin; but it is not painful, and does not exhibit a circumscribed tumour, as in phlegmonous inflammation of the part. If carried to such an extent as to impede the exit of the child, it may be opened, and pressure, with cold lotion, applied subsequently, to arrest the bleeding. If it does not hinder the progress of the labour, nothing need be done, as the blood effused will be absorbed afterwards, without any mischief.—(*See Burns, p. 64, last edition, and other midwifery authors.*)

[2] The pressure of the gravid uterus upon the vessels conveying the blood from the lower extremities, very often gives rise to œdema, which may be confined to the external genitals, or may involve the lower extremities. In this affection, the labia will be found considerably enlarged, and harder or softer, according to the amount of effused fluid. The tumefaction is general—affecting both labia, and not painful to the touch. The patient complains of a distressing sense of tightness and weight about the parts.

Little or no treatment is necessary during gestation. The horizontal posture should be observed as much as possible, and some cold lotion may be applied. Pressure by a T bandage will sometimes afford relief. After delivery, this affection entirely disappears.—(*Burns, p. 63, last edition, and midwifery authors generally.*)

[3] Heming's Translation, pages 553, 556, 567.

[4] Practice of Physic, vol. ii. p. 382.

[5] See Observations on the More Important Diseases of Women, p. 277.

openings in a distant and more inconvenient situation. The healing up of the abscess also is more prompt. (See Boyer's work on Surgery.) Pressure by a T bandage may subsequently be made, if necessary. Poultices should be constantly applied for some days. After the wound has healed, a degree of hardness often remains; this will generally subside in a short time, or, if not, it may be dissipated by friction with slightly stimulant or absorbent liniments.

Movement is so painful that the patient will, of her own accord, adopt the necessary degree of quiet and rest.

Occasionally, when greatly neglected, extensive ulceration and sloughing have taken place: in such cases, however, rest, fomentations and poultices, will generally be found adequate to the cure.

CHAPTER II.

ENCYSTED TUMOURS OF THE LABIA.[1]

These are met with of various sizes, generally circumscribed and semi-transparent. They give rise to few symptoms, except such as may arise from their magnitude; very often they are but symptomatic of more important disease of the uterus. The colour of the skin covering them is rarely changed. When opened, they are generally found to contain unhealthy sanies, or dark-coloured puriform matter.

Sometimes, but very rarely, ulceration takes place in them, and an unpleasant kind of sore is formed.

Diagnosis. The slow progress of the disease—the absence (in the great majority of cases) of inflammation and of acute pain will distinguish these tumours from phlegmon of the labia.

We have the choice of three modes of *treatment.* 1. Simple incision of the tumour, which is sometimes sufficient. 2. The insertion of a seton to produce suppuration or obliteration of the cyst; or, 3. The entire tumour may be dissected out, and this is probably the best plan, if any thing at all must be done.

CHAPTER III.

OOZING TUMOUR OF THE LABIA.[2]

This name has been given by Sir C. M. Clarke to a peculiar kind of tumour arising from or growing upon one or both labia, and sometimes even extending over the mons veneris. Its texture is firm, and it is lobulated or divided by fissures: its colour is nearly

[1] Boivin and Dugès (Heming's Trans.) p. 541. Sir A. Cooper on Hernia, part ii. p. 62. Blundell on the more Important Diseases of Women, p. 281.

[2] See Clarke on Diseases of Females, vol. ii. p. 129.

that of the part from which it grows. It is not œdematous, although the neighbouring parts are so sometimes. It is seldom raised much (from $\frac{1}{8}$ to $\frac{1}{3}$ of an inch) above the level of the surrounding skin. From its surface and interstices a watery fluid is distilled with considerable rapidity, varying in this respect somewhat according to the constitution of the patient and the weather; being much more profuse when the weather is damp, and the constitution debilitated.

This complaint most frequently attacks fat, middle-aged women, who have borne children, or whose constitution has been impaired.

The principal *symptoms* are an itching of the part with a great increase of heat and a profuse watery discharge, but no blood. Occasionally the discharge is acrid, and excoriates the parts with which it remains in contact.

Diagnosis.—Sir C. Clarke says, "At first sight the complaint may be mistaken for that form of erysipelas denominated shingles: but, upon a more careful inspection, it will be found that the projecting parts are solid, and that they do not, as in the disease called shingles, contain a fluid."

Care must be taken also, not to mistake mere excoriation of the labia for it.

Treatment.—There appears little hope of curing the disease, except by complete excision of the labia, which Sir C. M. Clarke performed with success in one case.

As palliatives—astringent powders, such as starch and sulphate of copper, finely pulverised and mixed, may be sprinkled upon the tumor—or astringent lotions, such as decoction of oak bark, green tea, &c. may be applied. Lotions of port wine or alcohol are also useful. It will be necessary for the patient to remain in the horizontal position, as the discharge is greatly increased by standing or walking. The diet should be nutritious, and a moderate quantity of wine may be allowed. As heated rooms and warm seats always aggravate the symptoms, they should be avoided.

CHAPTER IV.

WARTY TUMOURS OF THE VULVA.

These occur both singly and in clusters, generally suspended by a pedicle from some part of the external genitals. Their size varies from that of a pea to that of a turkey egg. Dugès mentions his having excised one three inches in diameter.[1] They are very apt to spread internally to the vestibulum. The patient complains of neither pain nor tenderness, but merely of some inconvenience if they be large, and if the mucous discharge be considerable. The colour of these tumours is the same as that of the parts from which

[1] Boivin and Dugès, p. 541. Clarke, vol. i. p. 283. Blundel, p. 281.

they grow. Internally they consist of small cysts, containing a thin serous fluid or purulent matter, and they are surrounded by a good deal of condensed cellular tissue and some fat.

Now and then we meet with an instance of suppuration taking place in them, and if they do not heal quickly afterwards, they are apt to degenerate into unhealthy sores.

In many cases they are undoubtedly of venereal origin, and occasionally they arise from the seat of former chancres, but we also meet with them independently of any taint whatever.

Treatment.—Relief is, of course, easily obtained for the time by excision, but the warty tumours are very liable to be reproduced. They may be removed by the knife, scissors, or ligature. Hemorrhage occasionally occurs when either of the former are used, so that after each it will be as well to apply caustic to the wound, taking the ordinary precautions to guard against inflammation spreading to the vagina. Should there be any suspicion of syphilis, mercury in some form or other must be given. The patient must be kept very quiet. The diet should be moderate, and the bowels freed occasionally by medicine.

CHAPTER V.

ITCHING OF THE VULVA.[1]

This complaint, which, strictly speaking, is but a symptom, assumes in many cases such a distressing prominence, as to demand a distinct notice. It certainly occurs at all ages, but it is much more frequent towards the decline of life. At first and throughout some cases, the uneasy sensations of itching, tingling and pricking, &c. are merely local and uncomplicated, but, from the structure and functions of the parts involved, general disorder often results, and feelings and actions are excited, which in their turn aggravate the primary affection. If the complaint be not arrested at this point or previously, the patient will be reduced to a very melancholy condition: utterly unfit for society, she is only injured by solitude which leaves her to the uncontrolled exercise of her imagination; her mind, influenced by the excitement of the organs affected, is occupied with lascivious thoughts and impure desires, and her conduct ("in defiance of herself," as a patient expressed it) towards the other sex is governed by her bodily disorder. In short, the disease degenerates into decided nymphomania.[2]

The progress of the disorder towards this sad condition varies in rapidity according to the extent of the irritation and the constitution of the patient, and in general it may be arrested before the

[1] Blundell, p. 271.

[2] See the Chapter on Nymphomania in Astruc, Capuron, Nauche, &c. &c.

development of its sexual characteristics. A local examination will frequently discover the nature and amount of the mischief.

The *causes* are very various. The secretion of the sebaceous glands, which are very numerous in this situation, becomes a source of great irritation from its acrid character, when allowed to accumulate, and this especially in warm weather. Pediculi are sometimes found here, and produce similar effects. This part is also liable to circumscribed inflammatory attacks, and to an eruption of prurigo or eczema, which causes great distress.[1] Irritation of the rectum from worms will give rise to this complaint. During pregnancy, from the increase of the fluids, and about the cessation of the menses from the irregular disturbance of the genital system, this symptom is frequently observed, and it is very commonly symptomatic of disease of the uterus or bladder.[2]

The *treatment* of this affection will be determined principally by the decision we come to as to whether it be symptomatic of deeper-seated disease or not, and also by the amount of irritation and by the constitution of the patient. In the former case, we shall do wisely merely to attempt to afford temporary relief by some of the more simple local applications. Permanent cure we can scarcely expect, independent of the primary disease, and a sudden arrest of the external symptoms might probably be at the expense of an aggravation of the internal and more important affection. In the more simple cases, our first care should be to remove any of the causes which can be discovered. The parts should be gently and carefully washed three or four times a day, with warm milk and water, and dried. If pediculi are present, they may be destroyed by astringent applications, such as turpentine, infusion of tobacco, &c.[3] or by sprinkling the part with calomel. Should the irritation be considerable, and persist after this treatment, it may be advisable, in patients of a full habit, to take away 12 or 14 ounces of blood from the arm. After the acute symptoms have been subdued, our principal reliance must be placed on local applications. Some authors recommend these in the form of ointment, and others in the form of lotion; I have always found the latter preferable, from their greater cleanliness, and from their being less affected by heat, &c. One of the most useful lotions we can employ is composed of a decoction of white poppy heads with acetate of lead, in the proportion of half a drachm of the latter to a pint of the former. Other

[1] See Biett on Diseases of the Skin, art. Eczema.

[2] Dr. Blundell (Diseases of Women, p. 274,) suggests, that perhaps the cause may be an affection of the "membraneous lining" of the womb—judging from the analogy of other mucous membranes, where the itching and the seat of the disorder are distant from each other; and he says, "A fair trial has not yet been given, as far as I can learn, to injections into the cavity of the womb." Nor would the doctor recommend them, I think, if he had read the account of the trials recently made in France, and which in many cases were attended with fatal results.

[3] See Blundell, p. 272.

astringents, such as alum or sulphate of zinc in aqueous solution, have also been found very useful. Simple iced water, or cold water with a small quantity of nitric acid, is a pleasant and useful application. Dr. Waller[1] has seen great relief follow the application of a solution of nitrate of silver (5 or 10 grains to an ounce of water). Dr Blundell has tried it with temporary benefit, but it failed to cure the complaint. Of the ointments recommended, those from which the greatest benefit is to be expected are the Ung. Plumb. Acet.—the Ung. Hyd. Muriat. and the Ung. Sulphuris. The strength at which they are employed will vary somewhat according to the amount of irritation; and previous to each fresh application, the parts should be carefully cleansed, lest the ointment itself aggravate instead of mitigating the disorder.

The internal administration of sulphur and of certain alterative medicines, as Plummer's pill with decoction of sarsaparilla, has been highly recommended. My friend Dr. Ireland informs me, that he has found large doses of dilute sulphuric acid of great use. A few grains of cicuta or hyosciamus will often be very beneficial in allaying the general irritation.

These remedies, or a selection from them, will apply to those cases in which the disease is strictly idiopathic and local—of course, some variation will be required according to the constitutional peculiarities of the individual. If the patient be pregnant, palliative remedies will suffice, as the disorder generally disappears after delivery. The diet should be moderate, with a total abstinence from stimulants of every kind. The patient should resist the inclination to obtain relief from the itching by friction, and all means calculated to preserve or improve the general health should be employed. In many instances, we shall probably be successful, but in others all our remedies will be tried in vain, and the disorder will persist, with or without nymphomania, for an indefinite period, and at length subside spontaneously.

Should the nymphomania[2] become confirmed, inasmuch as the cerebral functions are involved in the complication, our treatment must not merely be local as already directed, but, in addition, considerable advantage will often be derived from remedies directed to the relief of the nervous centre, such as leeches applied behind the ears —a "douche" of cold water to the head whilst the patient is taking a warm bath, &c. The moral management of the patient is also of great consequence. Every object, such as pictures, statues, books, &c. which can in the remotest degree further the train of ideas with which the patient is too apt to be occupied, should be removed, and her amusements and occupations so arranged as to call into play antagonist sentiments and principles.

[1] Waller's Edit. of Denman, p. 39.

[2] A hint is thrown out by Dr. Blundell, when speaking of this complaint, that perhaps when all other remedies have failed, the extirpation of the ovaries might be a remedy worth consideration. It is somewhat difficult to decide which of the two evils is the least.

For further information, the reader is referred to the essays of Bienville, Robion, and Herpion on Nymphomania, to the article in the Dict. de Médecine et Chirurgie, prat. by M. Jolly—to M. Louyer Villermay's work, De l'Hysterie et de l'Hypochondrie, and to the authors already named.

CHAPTER VI.

INFLAMMATION OF THE MUCOUS MEMBRANE OF THE VULVA.

This is a disease occurring at all periods of life, but presenting considerable differences according to the age of the patient. In children it occupies the whole of the mucous membrane of the external genitals, sometimes, but rarely, spreading to the vagina,[1] accompanied with a profuse puriform or milky discharge, with smarting but not severe pain, and ending in resolution, ulceration, or gangrene. This is the *leucorrhœa infantilis* of authors. In adults, on the contrary, the inflammation is very often partial and circumscribed, with a slight colourless discharge, intense pain, and ending almost always in resolution, very rarely in ulceration, and, as far as my observations have gone, never in gangrene.

It will be advisable to consider these two forms distinctly.

1st. *Infantile leucorrhœa* is seen at all periods after birth, in infants as well as older children, and principally among the neglected and badly nurtured children of the poor. The *causes* are chiefly cold, mechanical injuries, irritating substances, applied to the part, want of cleanliness, and sympathy with irritations of the rectum and large intestines. It has prevailed extensively during an epidemic catarrh of the mucous membranes (Dugès), and in the instances related by Mr. Kinder Wood, of Manchester, and Boivin and Dugès (at the Hôpital des Enfans malades), it appears to have occurred epidemically. It has also been attributed to an attempt at criminal intercourse, and an example is given in Percival's Medical Ethics, of a boy who was near suffering capital punishment for this supposed offence, and was saved merely by the occurrence of other cases concerning which no suspicion could exist. The presence of this discharge is no proof whatever of such an offence, and nothing but evidence totally independent of it can be admitted.

Symptoms.—The commencement of the disease is marked by local uneasiness, itching, and scalding on making water; the mucous membrane of the vulva is found inflamed and puffy, but for some time there is no discharge. The uneasiness felt by the

[1] Some authors, I am aware, regard this disease in children as vaginal leucorrhœa—others confine it to the vulva. I have made many examinations very carefully for the purpose of ascertaining the extent of the inflammation, and I have found that in at least three fourths of the cases, it did not extend further than the orifice of the vagina. Confirmatory of this view is the fact, that almost all cases may be cured by applications to the vulva alone.

child induces an attempt to relieve it by rubbing the part, which of course aggravates the suffering, and increases the inflammation. At a more advanced stage, there is observed a colourless thin mucous discharge, speedily becoming more copious, thicker, and of a white or yellow colour. It is very often of an acrid character, and gives rise to a ring of inflammation and sometimes of excoriation of the skin at the margin of the vulva. If the labia be separated, the mucous membrane will be found more vascular and of a deeper colour than usual; but in a very few cases does the inflammation extend up the vagina. The distress is increased with the progress of the disease—the smarting and scalding are very severe, and the little patient cannot walk without pain. It is very rare to find any constitutional disturbance, unless where this attack is but the local development of a general catarrh. Under ordinary circumstances, the disorder is neither very tedious nor very obstinate, and, after running a certain course, it terminates in resolution.

The cases mentioned by Boivin and Dugès,[1] as occurring during a general catarrh of the mucous membranes, sometimes presented the appearance of erythema, erysipelas, or aphthæ, and sometimes of superficial ulceration. In the epidemic which occurred in the "Hôpital des Enfans malades," Dugès observes,[2] "there were two kinds,—one attacked the weak, cachectic and exhausted, and followed after encrusted particles, or rather superficial gangrene of the skin:—the other affected the robust and stout, accompanied with swelling, redness, pain and fever, and beginning directly by an ulcerous point. Both presented a yellowish grey aspect, the edges abrupt like those of chancres; they occupied, however, the exterior rather than the interior of the pudenda; they increased in the same way as phagedenic ulcers or wounds affected with hospital gangrene, of which they presented all the characters; the fever increased with their surface, and emaciation and death frequently ensued in the first form. In the second, real gangrene sometimes took place, though most frequently the inflammation subsided easily, and was entirely cured by cleanliness, emollient lotions, moderate diet, and change of air."

Mr. Kinder Wood has given a very graphic description of the cases he observed in 1815.[3] The patients were from one to six years of age. Of twelve who were attacked, only two recovered. The inflammation of the labia was preceded by rigors, pain in the head, dulness, nausea, loss of appetite, thirst, &c. The distress of the patient on passing urine first atracted attention, and, on examination, the labia were found inflamed, swollen, and of a dark colour. Very soon the parts within the vulva became affected, and, from the thin discharge, Mr. Wood thinks it probable that the lower portion

[1] Heming's Trans. p. 651.

[2] Ant. Dugès Essai physiologico-pathologique sur la fievre, &c. vol. ii. p. 95 & 132—Boivin and Dugès, p. 551.

[3] History of a very fatal affection of the Pudendum of Female Children, by Kinder Wood, Esq. Med. Chir. Trans. vol. vii. p. 84.

of the vagina was involved. The process of ulceration set in rapidly, twenty-four hours sufficing for the production of vesications within the labia, and when these burst, the denuded surfaces coalesced and formed large ulcers. The discharge then became dark coloured, copious, and offensive, irritating the neighbouring parts, and favouring the extension of the disease to the thighs, perineum and anus. The pulse was quick and irritable after the commencement of the inflammation, and the face pallid. The bowels were constipated, and the stools brought away by medicine were dark, slimy, and offensive. In some cases, aphthæ had spread extensively around the anus and over the perineum. The ulcerations in this affection varied in depth and appearance, some being deep and dark coloured, and others superficial and sprinkled with small red granulations. After the occurrence of ulceration, "the external organs of generation are progressively destroyed, the peculiar pallor of the countenance increases, the pulse becomes quick and weak, the appetite fails, the bowels become loose, the skin of the thighs hangs loose and flabby as in marasmus, the discharge from the parts increases and becomes more and more offensive, till the patient is worn out and expires."

In the more favourable cases, when the disease was checked by suitable remedies, the ulcerations became cleaner and healed, but the constitution was found to have suffered severely, and a profuse yellowish discharge continued for some time, weakening the patient and rendering her very liable to a relapse. The duration of the disease varied from a fortnight to a month; its extent and the gravity of the symptoms appeared to depend mainly upon the constitutional peculiarities of the patient.

Such is the formidable, though fortunately very rare, variety of the simple disorder first described, the wide difference consisting principally in a greater degree of inflammation (in Mr. Wood's cases) acting upon a deteriorated constitution. Doctor Mackintosh[1] has found a similar attack come on after measles, and he discovered considerable vascularity with ulceration of the ilium after death. The same disease was noticed by Dr. Ferriar, of Manchester,[2] as a concomitant of a severe form of fever. He says, "that he has met with several instances of putrid fever in young girls, accompanied with broad maculæ on the body and limbs, and a gangrenous state of the labia pudendi. The parts were greatly tumified, and extremely painful. It was a very fatal complaint," &c. &c.

Diagnosis. The simple infantile leucorrhœa and the severer form at the beginning, somewhat resemble the *intertrigo* of infants, but the latter generally commences in the folds of the skin between the labia and thighs, and however extensive and severe the excoriation, it never runs on into ulceration. Mr. Wood thinks the disease he has described resembles the erysipelas of infants more than any other.

[1] Mackintosh's Practice of Physic, vol. ii. p. 384.
[2] Ferriar's Medical Histories and Reflections, p. 169.

The *treatment* of the milder form is simple, and generally successful. If the irritation be considerable, the parts should be fomented three or four times a day. A decoction of marsh mallow leaves answers very nicely for this purpose. After each fomentation,—the parts being carefully dried,—black wash or a weak solution of acetate of lead, or sulphate of zinc, &c. may be applied. I have found the former of these the more useful in ordinary cases, but, when the disease has become chronic and obstinate, the latter, or a lotion of nitrate of silver (gr. x. or gr. xv. to ℥ i.), will be preferable. If the inflammation should have extended into the vagina, it will be useful to inject some of the lotion by means of a small syringe. The little patient should be kept as quiet as possible, and care must be taken to prevent her rubbing the part. The diet should be moderate, and all stimulants prohibited: laxative medicines may be given occasionally. From the smarting which is caused by voiding the urine, the child is apt to retain it too long; this must be guarded against, and much relief from this suffering will be obtained by bathing the vulva with warm water at the conclusion of each evacuation. If there be any tendency to adhesion, lint spread with simple ointment should be placed between the labia.

Dr. Dewees[1] found benefit from the exhibition of five drops of the Tinct. Cantharidis three times a day, increasing one drop per diem, but omitting the medicine altogether if it caused strangury, and also the application of a warm plaster to the back.

In the severer form of this complaint, Mr. Wood recommends us to begin by giving a purgative, and by "washing the vulva with the liquor plumbi acetatis dilutus, slightly aired, and by poultices made with the same liquor and soft bread, applied warm, immediately after the parts have been washed." These applications are to be continued until the ulceration is healed. As soon as ulceration commences, bark must be given internally, and Mr. Wood found great benefit from adding to the decoction some aromatic confection, tincture of calumbo and tincture of opium. Wine may be given in moderate quantity. At a more advanced stage, when the tumefaction and redness are diminished, and the ulceration stationary, the ung. oxydi plumbi albi was very useful. Should diarrhœa occur, chalk mixture, catechu, the powder of chalk with opium, or any medicine calculated to restrain inordinate action of the bowels, may be given.

As a *consequence* of the milder variety of this disease, adhesion occasionally takes place between the inflamed surfaces, which, at a future period, may impede the discharge of the menses, or offer an obstacle to coition or parturition. These adhesions are easily destroyed soon after their formation by gently separating the labia, but at a more advanced period it is necessary sometimes to use the knife.

[1] See the chapter on Leucorrhœa in his work on Diseases of Children.

2. *Inflammation of the vulva in adults.*—I have already stated, that, under these circumstances, the attack differs considerably from the local affection in children just described. The inflammation is more circumscribed, less apt to run on to a breach of surface, and giving rise to a discharge of transparent mucus only. The pain is also incalculably more severe; I have seen as acute suffering (for a short time) from this trifling complaint as I have ever seen in cancer uteri.[1] Adult females of all ages are obnoxious to this attack, although it is more frequent amongst married (especially newly-married) women. It is *caused* by neglect of cleanliness and the consequent accumulation of the sebaceous secretion, by sympathetic irritation, as worms in the rectum, amenorrhœa, diseases of the uterus, &c. by excessive sexual intercourse and by cold. Probably venereal contagion may also give rise to it.

The principal *symptoms* are, very severe pain increased by motion and contact, scalding and burning on passing water, a feeling of weight at the vulva, and a forcing or bearing down. If we examine the external parts of generation, we may find either—a general blush of inflammation deepening the natural colour of the mucous membrane, which is sometimes (Boivin and Dugès) covered with patches of a thick creamy exudation—a more circumscribed inflammation which may attack any portion of the vulva, and is often seen merely surrounding the orifice of the urethra, and occasionally confined to the clitoris—a superficial excoriation involving the adjacent skin partially—or a few isolated pimples, with a minute vesicle on the top of each, and the rupture of which exposes a very small ulcer. Little or no tumefaction is perceptible. This description is taken from cases which have repeatedly presented themselves to me. The general symptoms are much the same in all the varieties.

The disease usually terminates in resolution,[2] but it may assume a chronic form with hypertrophy of the tissues involved. Should the inflammation spread so as to reach the submucous tissue of the labia, an abscess, such as has been described, may be the result. Adhesion of the opposing surfaces may also take place from neglect.

[1] This fact confirms the opinion, that the sensibility of mucous membranes is by far the most acute near their junction with the skin. An astringent injection scarcely ever causes smarting at any part of the vaginal canal, except at the orifice. The same fact is true of the other mucous membranes—the mucous membrane of the mouth, nose, eyes and anus, is more sensitive than any other portion of it.

[2] Dr. Burns describes a superficial ulceration of this part which gives rise to a good deal of suffering, but which is easily cured by slightly stimulating washes, and also a deeper kind of ulcer, which, from its resemblance to chancre, is apt to occasion distressing suspicions on the part of the patient and her friends. The diagnosis must be formed by observing the different character of the surface and edges of the ulceration, and a few days of proper management will probably remove all doubt. The treatment consists of emollient applications in the first instance, followed by astringent lotions and proper constitutional remedies. That such may be the termination of inflammation of the vulva, cannot be doubted, but I do not think it frequent.

The *treatment* will require to be more or less antiphlogistic. In a few cases leeches to the part will be necessary, but, in general, a frequent use of emollient fomentations, (Decoct. Malvæ or Decoct. Cap. Papav. alb.) will abate the local irritation, and the lotions of the acetate of lead, sulphate of zinc or black wash, will complete the cure. The pimples should be touched with the nitrate of silver, and, if the complaint be obstinate, a lotion of this salt (gr. xx. to f℥ i.) applied two or three times a day, will be found beneficial. The bowels should be kept very free, and saline purgatives appear to answer this purpose best. Great cleanliness should be observed, and all exciting causes avoided. The diet should be rather spare, and all stimulants prohibited.

CHAPTER VII.

ENLARGEMENT OF THE CLITORIS.[1]

This organ is not only found much larger than usual as a congenital malformation, but it sometimes requires the care of the surgeon from hypertrophy of its natural structure or morbid deposition into its tissue. Scarcely any organ is so liable to enlargement from frequent excitation,[2] and this in its turn prompts to a repetition of the excitement. The examples on record are very numerous, and, in some instances, it has been found of enormous size,[3] in others more moderate, it has given rise to a doubt as to the sex of the individual. In the majority of these cases, however, it does not exceed two inches in length.

[1] Dr. Hooper, in his "Morbid Anatomy of the Human Uterus," p. 13, has described what he calls a "cauliflower excrescence" growing from this part. "It mostly arises," he says, "from the præputium clitoridis by a small base, the size of a goose quill or filbert, though, in some instances, the base is broader. It soon expands and divides into lobes, which are again divided into other branches, very irregularly, and at length their extremities are flattened and fringed. The whole is of a whitish colour, and very like, in appearance and feel, an unripe or little expanded cauliflower. This disease of the clitoris and its pepuce cuts like hard gristle, and the divided surface is whitish, smooth, and not vascular to the eye."

[2] Since writing the above (which is but the reiteration of the general opinion), I have seen the work of M. Parent-Duchatelet on "Prostitution in the City of Paris," in which this question would appear to be set at rest on unquestionable evidence. Amongst all the registered prostitutes of Paris (amounting to about 6000), there are but three examples of enlarged clitoris, and none of them have distinguished themselves for extraordinary abandonment to sensual gratification; and on the other hand, the clitoris was found of the natural size in females of the most unbridled passions. It is difficult to decide with regard to M. Parent-Duchatelet's work, whether it is most admirable for the extensive, yet minute and precise details it contains, or for the perfect propriety with which such a subject is investigated.

[3] A clitoris was amputated some time ago in Mercer's Hospital, in this city, which in volume was about equal to the head of a child of two years old.

The primary *symptoms*, or those which arise from the mechanical disproportion of the parts, are trifling; in some cases, sexual intercourse has been impeded, and, in most, from the situation of the part and its great sensibility, it is liable to irritation from motion, and the consequences of this susceptibility form by far the most important feature of the disease. The sexual desire naturally leads to its gratification, and this again aggravates the complaint, and impels to further excess, until the patient at length falls a victim to nymphomania.

The hypertrophy may be congenital, or the result of inflammation. This part has also been found the seat of scirrhous deposition, most frequently connected with a similar morbid condition of the uterus, and ultimately running into ulceration, with lancinating pain and fœtid discharge, but giving rise to few or none of the secondary or nymphomaniacal symptoms.

Treatment. If the hypertrophy be slight and the symptoms not excessive, relief may sometimes be afforded by cooling or astringent lotions, or touching the part with caustic: but if the enlargement be so considerable as to occasion physical inconvenience or excessive sexual indulgence, amputation will be necessary.[1] Some blood is usually lost, but cold or caustics will always restrain the hemorrhage. Astringent lotions should be used for some time, and the patient kept in a state of absolute rest.

If, when the clitoris is enlarged from morbid deposition, we can ascertain that the uterus is free from disease, we might, under favourable circumstances, remove that organ, but there are very few cases which will be permanently cured by this proceeding, so apt is the disease to be reproduced and extended. In performing the operation, great care should be taken to excise the whole of the diseased portion.

CHAPTER VIII.

TUMOURS AT THE ORIFICE OF THE URETHRA.

The most frequent of these painful excrescences is the small *vascular tumour* described by Sir C. M. Clarke.[2] It arises either from the little projection just above the orifice of the urethra or from the edge of the orifice itself. It generally occurs in young women, whether single or married; Sir C. M. Clarke never met with an instance of it in a female beyond the middle age.

The temperament of the individual appears to have little or nothing to do with its production. It is not improbable that it may result from the circumscribed inflammation around the orifice of the urethra already described.

[1] See Richerand Nosographie Chirurgicale, vol. 4. Graefe—Nouvelle Bibliotheque Medicale, 1825, vol. ix. p. 256.

[2] Clarke on Diseases of Females, vol. i. p. 289.

Symptoms. Severe and constant pain at the vulva, increased to agony upon motion and contact: a sense of weight and bearing down, frequent desire to evacuate the bladder, and scalding. From the intensity of the suffering, sexual intercourse is almost precluded, and the patient, anticipating some grave disease of the womb, becomes agitated and depressed in spirits. The discharge, which is tolerably copious, is merely an increase of the natural mucus of the part.

The nature of the complaint is at once perceived on separating the labia:—close to the meatus urinarius a small projecting tumour is seen, varying in size from a pea to a nut—of a florid red colour, with a slightly granular surface. It is very tender when touched, but this sensibility is confined to the tumour. Its texture is not firm but spongy, and, when handled roughly, it bleeds. It is perfectly movable, and, on turning it a little to one side, its insertion into the tubercle above the meatus urinarius, or into the lip of the meatus, is distinctly exposed. It appears to consist almost entirely of vessels and their connecting cellular tissue.

From the similarity of the symptoms in this disease with those in circumscribed inflammation of the vulva, it is evident that an examination only can enable us to form a correct *diagnosis.*

The *treatment* consists in the removal of the tumour; the only question is the best mode of doing this. In the text of Sir C. Clarke's Essay, he advises a broad ligature as more likely to prevent a recurrence of the disease, but in a note appended to it he states, that further experience has led him to prefer excision and the application of caustic to the root of the tumour. Dr. F. Ramsbotham, in his lectures as reported in the Medical Gazette, gives the preference to a thin silk ligature.

Either mode may answer our purpose, but excision, followed by cauterisation, is probably the most effective as well as the least tedious. If the ligature be used, it should produce only a moderate degree of pressure at first, and, after a few hours, be tightened, the object being not merely to remove the tumour, but to do so by destroying its vitality. If excision be determined upon, the tumour should be snipped off with a pair of scissors close to the mucous membrane, and the root touched with lunar caustic, blue stone, or the potassa cum calce. The operation gives no pain, and is very seldom followed by any hemorrhage.

Dugès states that he has seen the disease cured by astringent lotions alone, and Dubois and Cullerier recommend cauterisation without excision. Instead of using caustic after excision, M. Boivin sprinkles the part with powdered alum.

After the tumour is removed, and the caustic applied, the parts ought to be kept constantly wet with some refrigerating lotion, as a means of preventing inflammation and the re-formation of the tumour.

It will be necessary for the patient to take two or three doses of purgative medicine, and to remain very quiet for some days.

Encephaloid or Carcinomatous Tumours are occasionally met

with in this situation, and have been well described by Boivin and Dugès.[1] They are generally symptomatic of an analogous morbid condition of the uterus, and consequently are rarely seen in young females.

The *symptoms* resemble those noted in the vascular tumour, with the addition of such as are dependant upon the primary disease.

They give rise to intense irritability of the vulva, scalding, smarting, and a mucous discharge. On examination, a lobulated tumour or a cluster of them (seldom of a large size), is discovered. They are extremely painful when touched.

Diagnosis. The age of the patient will be in some degree a guide to us, and an internal examination, if it detect disease of the uterus, will probably remove all doubt.

The *treatment* will entirely depend upon their being complicated or not with uterine disease. If they be, little ought to be attempted, as no permanent relief can be obtained, and the additional distress caused by them, is but a small portion of the patient's sufferings.

If they be not complicated, however, we may perhaps afford relief by excision, cauterisation, and cold applications, precisely as recommended in the vascular tumour.

Greater care will be required to secure complete extirpation on account of their malignant character and facility of reproduction.

PART II.

DISEASES OF THE INTERNAL GENITAL ORGANS.

SECTION II.—DISEASES OF THE VAGINA.

CHAPTER I.

VAGINAL LEUCORRHŒA, FLUOR ALBUS, WHITES, SEXUAL WEAKNESS,[2] &c.

Inflammation of the mucous membrane of the vagina, when arising independently of contagion, may be either acute or

[1] Diseases of the Uterus (Heming's Trans.) p. 546. The reader will find a fearful example of this kind of tumour related by Mr. Brayne, of Banbury, in the 4th vol. of the Transactions of the Provincial Medical and Surgical Association. It has grown to an enormous size, weighing "full eleven pounds." The effect upon the patient is what might be expected. Her constitution is breaking down without hope or help from medicine or surgery.

[2] It is not intended here to describe the vaginitis resulting from gonorrhœal contagion, nor to enter upon the consideration of the difference between vaginal and uterine leucorrhœa. This latter point will be fully discussed under the head of Uterine Leucorrhœa.

chronic.[1] 1. *The acute form* (*acute vaginitis*[2]) is by far the most frequent and the most painful; it is rarely met with in unmarried females or in elderly persons. The principal causes are cold, violence (as in rape), excessive coition, exertion too soon after delivery, high living, or inflammation spreading internally from the vulva. The habits of living of the patient will, of course, influence the operation of any of these causes.

Symptoms. The patient first perceives a sense of heat and soreness in the vagina, varying according to the amount of inflammation, with itching of the external parts. These increase after a short time, and pain, smarting, a feeling of weight and bearing down are added, together with sensation of tightness, as if the mucous membrane of the vagina were swollen. If the attack be violent, weight in the lower belly and pain extending down the thighs, will also be complained of.

At first, there is no discharge at all, but, in the course of a day or two, the patient perceives a more or less profuse flow of a thin, colourless, and occasionally acrid fluid, which in a little time becomes whitish or yellowish, and of much thicker consistence (puriform), resembling cream, but without any diminution of the quantity until the attack subsides. A great part of the local distress is relieved when the discharge is fully established. If an examination be made at the commencement of the attack, the calibre of the vagina is found to be diminished, and the mucous membrane swollen and puffy. The heat and tenderness are considerable, but no breach of surface can be detected by the finger or speculum. In most of the cases I have examined, the vaginal portion of the cervix uteri was not affected; occasionally the labia pudendi appear swollen, and more rarely the glands of the groin are enlarged. At an advanced stage of the disease, the swelling of the mucous membrane will be found to have subsided, and the heat and soreness to be much reduced. The most prominent feature at this period is the profuse discharge.

If the attack be slight and temporary, no constitutional symptoms will be developed, but, if severe, the patient may suffer from rigors, heaviness, and languor, pain in the back and around the loins, headach and thirst, with a quick pulse and a dry tongue.

These general symptoms, as well as the local ones, are mitigated by the occurrence of the discharge.

Terminations. In some cases, when treated promptly and judiciously, the attack terminates in resolution, evidenced by the equable subsidence of all the symptoms. Its duration may vary

[1] Dr. Blundell makes a similar division into the inflammatory and gleety form (p. 146), but the distinction between uterine and vaginal leucorrhœa he does not attempt.

[2] This is described by Sir C. M. Clarke, as giving rise to "the purulent discharge," see vol. ii. p. 166. See also Good's Study of Medicine, vol. iv. p. 67; Burns' Midwifery, p. 83; Ryan's Midwifery, p. 261; Hamilton on Diseases of Females, &c. &c.

from two days to a month. But more frequently, the local distress and most of the general symptoms (if such are present) having subsided, but the discharge continuing, the disease slides gradually into the chronic form.

The *diagnosis* from gonorrhœa is, according to all authorities upon the subject, extremely difficult. Sir C. M. Clarke seems to think it impossible. There are some cases, however, in which all doubt may be removed by an examination with the speculum. Whenever the peculiar erosions or superficial ulcers of the mucous membrane covering the cervix uteri described by Ricord,[1] and which, he says, occur in 19 out of 20 acute cases, are discovered, then we can have no hesitation in pronouncing the disorder to be gonorrhœa.

The discharge from the urethra (though it does occasionally occur) is much less frequent in leucorrhœa than in gonorrhœa. Out of 200 cases of the latter kind, Ricord states that 8 in every 12 had the urethra so affected. The glands of the groin are also much less frequently enlarged in the disease under consideration. The moral character of the patients will afford, in addition, a certain degree of assistance in forming our diagnosis.

The condition of the vagina and cervix uteri will at once distinguish it from acute uterine leucorrhœa.

The *consequences* of an attack of acute vaginitis are seldom important—narrowing of the canal or adhesion of its sides may take place, but they are easily remedied.

Treatment. If the patient be of a plethoric habit, and the inflammation intense, a proportionate quantity of blood should be taken from the arm, or leeches applied to the vulva, followed by fomentations. In milder cases, bran poultices or fomentations may be sufficient, with vaginal injections of warm water at first, and subsequently of a solution of the accetate of lead. A hip bath occasionally will be found a powerful adjunct in abating the inflammation. The patient should be confined to the horizontal position as much as possible, and saline purgatives given as often as may be necessary. In some cases, I have tried small doses of tartar emetic with apparent benefit. The diet should be spare, and all possible causes of aggravation avoided.

In the majority of instances, an early and diligent use of these means will cure the disease; if not, it will probably assume the chronic form, which we shall next consider.

2. *The chronic form of Leucorrhœa (chronic vaginitis).* This is perhaps the most common of all the diseases to which females are subject—few escaping an attack of it at one time or other of their lives—nor is this surprising when we consider the variety of local stimuli to which the vagina is exposed, in addition to those more general causes which act upon it in common with other

[1] See Ricord on the employment of the speculum in females affected with Venereal Diseases, &c. Mem. de l'Acad. 2 vols. 1833.

mucous membranes. The period of female life during which it is most common, is, as we might expect, from the establishment of the menstrual function until its cessation. It does, however, sometimes, though rarely, precede the appearance of the catamenia, and although it may occur subsequent to their cessation, the majority of cases in which this is stated to have been the case, were, I have no doubt, examples of uterine leucorrhœa.

From the constitutional peculiarities of some patients (and very often induced by the disease itself,) the discharge has been attributed to a relaxation and debility. If, however, the local symptoms be carefully estimated, and their progress traced back, sufficient grounds will, I think, be found for considering the local disorder as inflammatory. The chronic form may be supposed to be always a sequence of the acute, although from its brevity and slight intensity, the acute stage may have passed unnoticed.

The *causes* are either local or general; among the former may be enumerated excessive sexual indulgence, frequent childbearing, irritation from foreign bodies, (as, for example, from a pessary allowed to remain too long in the vagina,) or in the neighbouring parts, as the rectum, &c., displacements, morbid growths, &c. &c. Amongst the general causes, we find cold (especially in autumn and spring), alternations of wet and dry weather, too free living,[1] and the excessive use of spirits or wine, sympathetic irritations.[2] &c.

Symptoms.[3] The patient complains of a more or less colourless or whitish discharge from the vagina, of a bland character. In some cases, it has been found of a brownish colour and acrid, excoriating the edges of the vulva. There is scarcely any increase of heat, and little or no pain or tenderness. The inguinal glands are never affected. If the discharge be very profuse, a considerable degree of weakness may be induced with great weariness after exertion. There is generally some complaint of aching in the back and loins, and after it has continued long, dyspeptic symptoms appear. A question has been debated latterly as to whether leucorrhœal discharge (either uterine or vaginal), not venereal, may

[1] Sir C. Clarke has described a species of excessive mucous discharge, which he believes to be independent of "increased action," and which he attributes to the formation of an excessive quantity of blood from high living and indolent habits. The uterus sympathising with the general plethora, secretes an unusual quantity of mucous and catamenia. Vol. i. p. 301.

He also describes a variety dependant upon "debility." Vol. i. p. 310. It may, perhaps, be doubted, whether general weakness and relaxation is any proof of debility of the vaginal mucous membrane, and for this reason I have described the local disease as it is generally seen, without dividing it into species according to the cause.

[2] See Clarke on Diseases of females, vol. i. p. 163.

[3] For the severer symptoms usually described in books, I must refer the reader to the chapter on Uterine Leucorrhœa. The responsibility of their omission here must rest on me entirely; all I can say in self-defence is, that among the great number of patients I have carefully examined, I have found them absent in all cases of uncomplicated vaginal leucorrhœa.

give rise to gonorrhœa and sores in the male, and different opinions have been advanced. John Hunter, who stands very high as an authority, says, "Such cases, as far as I have seen, have only been in form of a gonorrhœa, they have not produced sores in the parts, nor, so far as I know, do they ever produce constitutional diseases." Other writers, of somewhat less weight, have maintained the contrary.[1] I have seen three cases of a thin mucous discharge in males, who positively denied having had, for some years previously, intercourse with any other females than their wives. The wives denied most strenuously the accusation of incontinence, and certainly exhibited no symptom whatever of a gonorrhœal character. Of course, these cases do not prove the point, as so much depends upon the veracity of both parties, who may be supposed to have had an interest in concealing the truth. Whether vaginal or uterine leucorrhœa would be more likely to excite such an irritation in the male organs, I am unable to say.

Diagnosis. It may be distinguished, 1st, from the *acute stage of gonorrhœa*, by there being less local irritation, by the discharge being colourless or whitish, by the absence of scalding on passing urine, and by the discharge from the urethra; 2d, from *urine leucorrhœa*, by the discharge being unconnected with irritation of the uterus, by its not increasing before or after each menstrual period, and by the minor degree of constitutional suffering.

Treatment. It is very rarely, indeed, that depletory measures are necessary, and in such a case a few leeches to the vulva or cupping the loins will suffice. If the patient be weakly or cachectic, tonics, either vegetable or mineral, ought to be given. Opium in small doses has been found useful, from its power of diminishing secretion. Balsam copaiva has been recommended, but I cannot say that it succeeded in the cases in which I tried it. Dr. Cless, of Copenhagen, and others have prescribed cubebs with benefit.[2] Tincture of cantharides is said to be useful (Dewees), and many

[1] In the "Lancet" for July 9th, 1836, there are some cases related by a Mr. Eagle, of sores on the penis produced by connection with females labouring under leucorrhœa only. I may quote one. "Obs. 5. A married gentleman, æt. 33, of sedentary habits, is frequently the subject of indolent ulcers on the prepuce, which are at times long in healing, if no mercurial be used. His wife is healthy in appearance, although the subject of leucorrhœa." There are other similar cases related, and some which show that sores may be caused by connection during menstruation. The conclusions Mr. Eagle draws are—"First, that a modest female, labouring under leucorrhœa, may inflict both a gonorrhœa and sores. Secondly, That, as the more severe the cause the more intense the effect, it follows—Thirdly, *and principally, that the same discharge*, occurring in a female, under the continued and combined excitement of venery and drink, would possess so much the more acrimony, that it would produce venereal gonorrhœa or true chancre."—*Lancet*, vol. ii. p. 492.

[2] "Copaiva balsam, compound tincture of benzoin, and cubebs, are the principal medicines. I would advise you to administer them according to the effect produced. A pretty full dose of the copaiva I consider to be about four drams in the course of the day; of the compound tincture of benzoin,

other remedies have had their advocates. I have had less experience in general remedies in consequence of the almost invariable success attending local treatment, consisting chiefly of different astringent solutions thrown up the vagina by means of a syringe or glyster-pipe and bladder. Those I have found most effectual are decoction of oak bark, with or without alum, a solution of alum in water (ʒi. to fʒiv.), of sulphate of zinc (ʒi. to fʒiii.), or of nitrate of silver,[1] (gr. x. to ʒss. in fʒiv.). The proportions I have given are those I generally prescribe, but they will require to be modified according to the peculiarities of the case. The injection should be administered slowly and in the recumbent posture: it rarely causes any pain, and most frequently diminishes the discharge immediately. It should be used twice a day, and the strength gradually increased if the disease continue long. It may be as well to give the first two or three injections, tepid; subsequently they may be used cold. A cold shower bath occasionally, or the "douche" to the loins, will be found very useful. The patient should be much in the open air, and should take sufficient exercise without fatigue. All circumstances which may keep up the disorder or reproduce it must be cautiously avoided. The diet should be properly regulated, as it has considerable influence upon the disease.

It occasionally happens that, after the disease has been apparently cured, a discharge of more than the usual quantity of mucus from the parts is observed, and this may continue for some time. John Hunter (I believe) called it the "leucorrhœa of habit," and the name (whether correct or not) has been since retained. To arrest this we need only increase the strength of the injection or change it for another.

Dr. Jewel has noticed a metastasis to the joints in some cases, where the discharge was suppressed suddenly—this will require suitable treatment of the part so affected, and the attack will probably be relieved by a reproduction of the original disease.

Vaginal leucorrhœa is not unfrequently complicated with uterine leucorrhœa, and will, in such cases, present a combination of those symptoms which are peculiar to each. I have found it better to treat the uterine disorder first, and, when that is relieved, to attempt the cure of the vaginal leucorrhœa in the way just detailed.

The *consequence* of a long persistence of leucorrhœa is a relaxation of the parietes of the vagina favouring the production of prolapsus uteri, and which can only be remedied by a diligent use of astringent injections.

an ounce, and one or two ounces of the cubebs daily, more or less according to the effects produced." Blundell on Diseases of Women, p. 158.

[1] For further details on the use of nitrate of silver in leucorrhœa, see Dr. Jewel's excellent little work on this subject. All the cases I have seen are confirmatory of his observations, provided only that they are cases of *vaginal* leucorrhœa. In *uterine* leucorrhœa, on the contrary, I have repeatedly seen menorrhagia induced by injections of nitrate of silver or other astringents.

CHAPTER II.

INFLAMMATION OF THE GLANDULAR STRUCTURE OF THE MUCOUS MEMBRANE COVERING THE CERVIX UTERI.

A variety of leucorrhœa has been described by Sir C. M. Clarke, under the title of "the white discharge," which differs from the disease already noticed by the severer suffering it entails—the peculiarity of the discharge—and the state of the cervix and os uteri.

The principal *symptoms* are an aching sensation or pain in the back and lower part of the abdomen, increased by calling the neighbouring viscera or muscles into action, and by pressure of any kind. Sexual intercourse is consequently productive of great pain, and is often the first circumstance which excites the attention of the patient. Irritability of the bladder and rectum are frequent concomitants of the disease. In some cases, dysmenorrhœa will occur, but more generally the function of menstruation is not disturbed.

"The discharge is opaque, of a perfectly white colour, it resembles in consistence a mixture of starch and water made without heat, or thin cream. It is easily washed from the finger after an examination, and it is capable of being diffused through water, rendering it turbid."[1] "In many instances the white mucous discharge is much thicker than cream, having the tenacity of glue; and perhaps this is the state in which it comes away from the cervix uteri. When the white opaque mucus possesses the tenacity just mentioned, it does not flow spontaneously, but it remains in the vagina, either until the exertions employed to empty the rectum squeeze out at the same time the contents of the vagina, or perhaps, by remaining in the vagina, it may, by mixing with the mucus of that part, become attenuated." (p. 7.) An internal examination reveals nothing unusual in the vaginal canal, but on pressing the cervix uteri, which feels swollen, the patient complains of severe pain. If, as Sir C. Clarke supposes, this state of the cervix always accompanied the white discharge, the disease could never be mistaken; but many cases occur in which the white discharge, exactly as described in the quotation above, is present, without any puffiness or tenderness of the neck of the uterus.

Judging from the local symptoms generally present, and from the resemblance which this white discharge has to the secretion from the glands in the mucous membrane of the neck of the womb under other circumstances, Sir C. Clarke concludes that it is this glandular apparatus which is the seat of the inflammation in this disease.

There are seldom any constitutional symptoms present.

Sir C. M. Clarke throws out a hint as to the probability of this affection of the glandular apparatus being the precursor of more serious uterine disease, as carcinoma, a supposition which is

[1] Clarke on Diseases of Females, vol. ii. pp. 5 & 7.

strengthened by the greater frequency of the latter disease in glandular than in any other structure, and by the destruction of the cervix preceding that of any other part of the uterus in cancer. More direct observations, however, than we at present possess would be required to decide the question.

The *causes* are not very clearly made out; cold, excessive exertion, or irregular habits of life, may give rise to it; and I have seen it the result of a sudden suppression of the menses.

The *diagnosis* must be formed, from the concurrence of the tenderness of the cervix uteri with the white discharge; I have already stated, that discharges of a white colour and creamy consistence often occur without this affection of the cervix.

Treatment. The first thing to be done, by way of relieving the inflammation, is to abstract blood, either by venesection, leeches, or cupping the loins,[1] in proportion to the amount of disease, and to repeat this, if necessary.

The hip bath, or fomentations to the lower part of the abdomen and back, may be used twice a day, and will be found to second, very beneficially, the effects of the loss of blood. Vaginal injections of tepid water should be given three or four times a day. There is no remedy from which the patient experiences so much relief and comfort as from this. The bowels must be kept free, if necessary, by purgatives, and probably castor oil will answer the purpose best. If the desire to void urine be very troublesome, a full dose of laudanum may be given, with plenty of mucilaginous fluids for drink.

Should retention of urine occur, catheterism will be necessary to avoid the chance of inflammation of the bladder, as well as to relieve the distress of the patient.

It will be proper for the patient to observe the horizontal position, and to rest as much as possible for some days until the irritation shall have subsided, avoiding scrupulously every thing calculated to aggravate the disease.

CHAPTER III.

GRANULAR INFLAMMATION OF THE MUCOUS MEMBRANE OF THE CERVIX UTERI.

As this is a disease which can only be discovered by ocular examination, we could not expect to find any description of it in the older writers; but since the adoption of the speculum as a means of investigation, this and other morbid phenomena are much better known. The best, and indeed almost the only account of it, will be found in the valuable work of Boivin and Dugès.[2]

[1] In almost all affections of the uterine system, I have found cupping the loins by far the most efficacious mode of taking away blood.

[2] Page 373 of Heming's Trans.

These granulations, which may be seen on the labia of the os uteri, and on the external surface of the cervix, are the result of acute or chronic inflammation, and the two forms differ considerably.

In the first species, or that resulting from *acute* inflammation, the granulations are occasionally few in number, about the size of peas, subpediculated, firm, and whitish; more frequently, they are of the size of millet seeds, whitish but soft as if vesicular, in great numbers and without a pedicle. The contact of the speculum or of the finger, or the act of defœcation merely, gives rise to a discharge of blood from the membrane of the cervix uteri.

In the second species, the consequence of chronic inflammation, the granulations are either small, hard, and whitish—reddish and soft—or miliary, without redness of the surface of the cervix uteri, from which they grow.

The usual *symptoms* are pain and vaginal discharge. In the acute form, there is considerable redness and vascularity of the parts, which bleed when touched. In the chronic form, these two characteristics are absent. There is some tenderness about the os uteri, with pruritus of the external parts, sometimes nearly causing nymphomania.

The *causes* are extremely obscure. In some cases, it appears to arise from derangements of the catamenia, or from cold caught during menstruation or after abortion; in others it appears referable to cutaneous or syphilitic disease. Not unfrequently it coexists with induration or other organic change of the cervix.

The *diagnosis*, with the aid of the speculum, is tolerably easy, but, without it, it will require great care and a sensitive touch, as the granulations, when large, are generally soft, and, when hard, are almost always very small.

The most successful *treatment* consists in local blood-letting by cupping or leeches in the first instance, and, in acute cases, followed by warm baths, emollient vaginal injections, and counter-irritation.

In the chronic form, bleeding will rarely be necesary. Astringent or stimulant injections will be found most efficient, especially a solution of the nitrate of silver. Tonics (particularly the metallic) or mineral waters will generally be found very useful.

Counter-irritation, by blisters on the sacrum or cauterisation, will be found to exercise a decided influence over the progress of the disease. Should there be any suspicion of a syphilitic origin, specific remedies must be employed. Every source of irritation should be carefully avoided.

CHAPTER IV.

THICKENING OF THE CELLULAR MEMBRANE SURROUNDING THE URETHRA, WITH A VARICOSE STATE OF THE VESSELS.

For the first description of this disease we are indebted to Sir C. M. Clarke;[1] but cases of it must have repeatedly occurred to all

[1] Clarke on Diseases of Females, vol. i. p. 259.

engaged in the practice of midwifery. It rarely, if ever, occurs in young or unmarried females, and by far the most frequently in those who have borne several children; in fact, there is almost always an enlargement of this part in women after repeated child-bearing, even when it does not amount to the painful affection under consideration.

The disease appears to consist essentially in a dilated state of the blood vessels of the part, with hypertrophy of the cellular tissue, just what might be expected from the repeated distension and collapse of the passage in childbearing, or from increased vascular excitement.

Symptoms. A constant sense of uneasiness or pain, on sexual intercourse, is generally the first thing which attracts attention, and the patient complains of fulness and weight at the orifice of the vagina when in the upright position. There is also a distressing desire to evacuate the bladder frequently, arising from the dilatation of a portion of the urethra, forming a small pouch in which a few drops of urine lodge. This symptom is a source of great inconvenience, and, by interrupting the patient's rest, may produce a decided deterioration of the general health. A mucous discharge always accompanies this disease. If we turn aside the labia, directing the patient to force down at the same time, we shall be able to detect a portion of the tumified urethra, and with the finger in the vagina we can trace it up to its entrance into the bladder. The part exposed to view is of a dark red colour, and has a spongy feel. If pressed, the swelling and redness disappear, but return when the pressure is removed. There is always some degree of tenderness present. The introduction of the catheter will enable us to detect the pouch before mentioned.

The *diagnosis* must be formed upon careful examination, both by the eye and the finger.

The *treatment* consists in puncturing or scarifying the vessels or in the application of leeches, with cold lotions subsequently. All warm applications have been found to do more harm than good. After a few days, astringent lotions, composed of the sulphate of zinc, alum, acetate of lead, &c. may be used. When the punctures have healed, and all irritation has subsided, pressure must be made upon the enlarged vessels by the introduction of a piece of wax candle or a roll of linen, which must be allowed to protrude slightly *through* the orifice of the vagina. The scarification may be repeated if the vessels become again distended with similar subsequent treatment. The diet should be mild, and the regular action of the bowels maintained.

The patient should rest in bed or on a sofa, constantly.

CHAPTER V.

PROLAPSE OF THE VAGINA.

This displacement, which is sometimes mistaken for prolapsus uteri, is by no means uncommon. It is very rarely, if ever, seen in

females who have not passed the middle age, and who have not borne children.

The conditions required for its production are, a relaxed state of the parieties of the vagina and a protruding force *à posteriori*.

There are two species of this displacement (or rather two situations in which it occurs), viz. prolapse of the anterior wall and prolapse of the posterior wall of the vagina. The prolapse, which takes place at the same time with prolapsus uteri, we shall defer until that disease comes under consideration.

1. *Prolapse of the anterior wall of the vagina*, or vaginal cystocele, as it is sometimes called. The mechanism by which this is produced is sufficiently intelligible. The vagina (or, according to Siebold, the inner membrane only,) becomes relaxed from some cause, such as repeated childbearing, and the urine having been allowed to accumulate, it distends and forces the bladder downwards, protruding before it the yielding vagina. Every time that this accumulation takes place the bladder is distended to a greater degree, so that, that which at first occasioned no inconvenience, gradually increases until complete prolapse or protrusion through the external orifice, is the result.

Symptoms. The patient complains of weight in the vagina, bearing down, a sensation of emptiness and dragging in the lower part of the abdomen, unpleasantness and sometimes difficulty in walking, with more or less dysuria, as the bladder, from over distension, has to a certain degree lost the power of contraction. Several patients have stated that they could only complete the evacuation by replacing and supporting the bladder in its natural situation.

On examination, a round, soft, elastic, fluctuating tumour of a red or blueish red colour, is perceived in the orifice of the vagina, varying in size at different times, and which can be greatly diminished by catheterism. When introduced, the catheter requires to be directed downwards. The finger can be passed into the vagina *below* the tumour, but under the arch of the pubis the mucous membrane terminates in a "cul de sac," from whence it is reflected over the protruding part. The os uteri can be felt behind and above the tumour, nearly in its natural situation. The surface of the tumour, when large, is smooth, moist, and shining, but when nearly empty it is thrown into transverse folds. There is always an increased mucous discharge.

Diagnosis. It may be distinguished—1. *From prolapsus uteri*, by the globular form and the softness of the tumour, by its communicating a sense of fluctuation to the finger, and by the os uteri being found in its natural situation, instead of (as in prolapsus uteri) at the inferior part of the tumour:

2. From *prolapse of the posterior wall*, by the softness and fluctuating character of the tumour, by the introduction of the finger *posteriorly*, and by the effect of catheterism in diminishing the protrusion:

3. From *inversion of the uterus*, by the varying size of the tumour, the effects of catheterism upon it, the fluctuation, and by the os uteri being in its natural situation.

Treatment. The first and most important point is to prevent any accumulation of urine in the bladder, either by the frequent natural evacuation of it, or by the introduction of the catheter. This alone will speedily diminish the prolapse, and cause it to recede. Cold applications to the external parts or dashing cold water over the hips will be found very useful, and cold astringent injections should be thrown into the vagina twice or three times a day. In recent cases, this treatment, with rest, will often suffice, but in those of longer standing where the prolapse is more complete, mechanical support will be necessary. This may be afforded by filling up the vaginal orifice either with a piece of tolerably thick wax candle or by a roll of linen kept *in situ* by being attached to a bandage passing between the thighs—or by distending the vagina internally, so as to prohibit the protrusion of any portion of it. This may be done by a sponge tent or by an elastic gum pessary of the proper size and shape.[1] Dr. Rognetta, of Milan, has described one which he has found to answer the purpose very well. It is a hollow cylinder of elastic gum, of sufficient length to keep the vagina distended upwards and to protrude slightly through the orifice, and wide enough to prevent the parietes of the vagina escaping below it. M. Jules Cloquet[2] uses one similar, but flattened and curved slightly. It is about 4½ or 5 inches in length, 3 in breadth, and 1 in thickness. Its concave surface, when introduced, is towards the bladder, and its greater diameter corresponds to the transverse diameter of the lower outlet. From its size it is manifest that the vagina will be kept just so much upon the stretch as to prevent its prolapse, and yet from its flattened shape no inconvenient pressure is made on the bladder or rectum. It is hollow, and open at both ends to allow of the escape of any fluid which may be secreted.

If there be any objection to the use of a pessary or sponge tent on the ground of their causing irritation, &c., and if the patient be past the usual period of conception,[3] we might have recourse to an operation similar to the one adopted by my friends Dr. M. Hall, of London, and Dr. Ireland, of this city, for *prolapsus uteri.* This consists in diminishing the calibre of the vagina by taking out a

[1] The pessaries used in prolapse of the womb are of no use whatever in prolapse of the vagina; their size and shape, which is well adapted for the former, render them quite inefficient against the latter.

[2] I am indebted to my friend Dr. Thomas Beatty for a sight of the one which was given to him by M. Cloquet.

[3] As most of the females in whom this disease occurs are advanced in life, it may be superfluous to consider the possibility of conception; but when it does happen before such an age, it is an important consideration, as in all probability the passage of the child through the vagina would rupture the cicatrix, and be attended with considerable mischief.

triangular portion of the mucous membrane (the base of the triangle being at the orifice of the vagina), and drawing the edges together by sutures. When the cicatrisation is complete, the tightened mucous membrane will be found to support the bladder in its proper situation. Absolute rest and cold vaginal injections, two or three times a day, will be necessary to keep down the inflammation. Catheterism should be performed as often as it may be required to empty the bladder. It may be advisable to restrain the action of the bowels for a short time, lest the effort should detach the sutures, and when an aperient is necessary, it will be best to administer it in form of enema.

2. *Prolapse of the posterior wall of the vagina*, or, as it has been called, vaginal retrocele. The mechanism of this displacement is the same as the last described, except that the distending force is not derived from the bladder, but from the rectum. It is invariably a consequence of habitual and prolonged constipation ; the accumulated fæces distend the rectum to a great size, and as the vagina, being loose and relaxed, offers no resistance, a very little effort protrudes the tumour through the external orifice. As the distension is more prolonged, and the intervals of relief more distant than in the former species, the vagina returns less readily to its natural state, and even after the removal of the cause of distension, it continues loose and ready to prolapse on the least expulsive force being used.

The *symptoms* are much the same as in the former species, the patient complains of weight at the lower outlet, uneasiness and distress in walking, &c. There is a slight mucous discharge.

Some relief from the uneasiness and inconvenience is obtained by the evacuation of the rectum.

On turning aside the labia pudendi, a globular tumour is discovered occupying the orifice of the vagina, compressible but not fluctuating, and through the parietes of which scybalæ may sometimes be felt.

The finger passes readily *anterior* to the tumour, and the os uteri is found at about the usual height in the pelvis ; *posteriorly* the finger is arrested by the mucous membrane where it is reflected downwards and forwards upon the tumour. When the prolapsed vagina is distended, the surface of the mucous membrane is smooth, but when the rectum has been emptied it is thrown into rugæ, but by no means so minute and regular as those on the anterior parietes.

Diagnosis. It may be distinguished—1. *From prolapse of the anterior wall* by the compressible but not fluctuating character of the tumour, by the relief experienced after fæcal discharges, and by the readiness with which the finger passes *anterior* to it.

2. From *prolapsus uteri*, by the natural situation of the os uteri, by the effect of emptying the rectum, and by the impossibility of passing the finger posteriorly.

3. From *inversion of the uterus*, by the natural situation of the os uteri, and by the variable size of the tumour, with its cause.

The *treatment* consists, as in the former species, in removing the cause, preventing its recurrence, and in restoring the tone of the mucous membrane by cold and astringent applications, or in affording mechanical assistance by pessaries[1] or by a diminution of the calibre of the vagina. The bowels should be kept free by enemata, and rest should be enjoined.

The *consequences* of this disease are excoriation of the exposed membrane, persistent leucorrhœa, and relaxation of the vaginal parietes, permitting prolapse of the womb.

It is very rare, indeed, to find simple prolapse of the whole circumference of the vaginal mucous membrane.[2] I have seen one

[1] In the Gazette Medicale de Paris, for April, 1836, there is a memoir by M. Malgaigne on prolapse of the posterior wall, or vaginal retrocele, as he terms it, in which, after describing the symptoms (constipation, dyspepsia, emaciation, &c.) and the protrusion of the vagina, he describes (not very clearly indeed) a new pessary of a funnel shape ("en entonnoir") large enough to distend the vagina and prevent the prolapse. In truth, the varieties of form are of little consequence; the principle to be observed, if we wish to succeed, is to distend the vagina longitudinally, so that there shall be no part of the parietes sufficiently loose to prolapse.

[2] Siebold describes prolapse of the entire cylinder of the mucous membrane, which I have omitted on account of its rare occurrence. The symptoms are the same as in the more partial prolapse, but, on examination, the projecting tumour is seen to spring from the whole circumference of the vaginal orifice, and an opening is found at its lower part leading up to the os uteri, which, in severe cases, is found more or less dragged down from its natural situation. In a recent prolapse of this kind, the *diagnosis* is not difficult, on the grounds stated in the text; but where the tumour has been long exposed, and has become hard and swollen, the orifice inferiorly may lead us to mistake it for prolapsus uteri, and the error can only be avoided by the further introduction of the finger and the discovery of the true os uteri.

The extent of this species of prolapse varies much; it may be slight, or it may protrude considerably. Noel (Journal de Medicine, vol. li. p. 60, quoted by Siebold) relates a case where the prolapse reached down to the knees.

The consequences of this form of the disease, when not remedied, are rather more serious than those of the partial kind. It offers an impediment to sexual intercourse and to conception—renders the evacuation of urine and fæces difficult, gives rise to inflammation, swelling, varicose veins, and excoriation of the vagina—to excessive menstruation, leucorrhœa, and prolapse of the uterus.

The remedies are similar to those recommended in the text, viz. the replacement of the parts, and their retention by a pessary, with fomentations if the swelling be considerable, and afterwards astringent injections. Or, if the patient be past the age of childbearing, a flap of the mucous membrane may be removed, and the edges united so as to diminish the calibre of the vagina.

In addition to the works of Denman, Burns, Blundell, Boivin and Dugès, Capuron, Lisfranc, &c., the reader may consult with benefit—

Shacher diss. de Prolapsu Vaginæ Uteri. Lipsiæ 1725.

Strohlin diss. de Relaxatione Vaginæ, &c. Argent. 1749.

Loder Programma I. III. de Vaginæ Uteri Procidentia. Jenæ 1781.

Richter Anfangsgründe der Wundarzeneykunst, vol. vii.

Siebold Handbuch zur Erkenntniss und Heilung der Frauenzimmerkrankheiten, vol. i. p. 762.

case where the two species I have described alternated,—one day there will be prolapse of the anterior wall, and the next of the posterior. The cause appeared to be a loose state of the mucous membrane which descended when the slightest expulsive force was exerted, neither of the usual distending causes existed, and there was no reason for believing that the bladder or rectum accompanied the vaginal prolapse. It was easily cured by rest and astringent injections.

CHAPTER VI.

ABSCESS BETWEEN THE VAGINA AND RECTUM.

This disease is most frequently the result of violence done to the parts by a fall or a kick, &c., or by the passage of the child's head in difficult labours. It does occur, however, quite independent of external causes: in a patient I have had an opportunity of treating in the Meath Hospital, through the kindness of my friends Drs. Graves and Stokes, it came on immediately after the cure of a severe attack of acute uterine leucorrhœa, without any appreciable cause. The inflammation, whether produced by violence or not, gives rise to severe pain in the part—a sensation of weight, tension, and bearing down, greatly increased in the upright position, and by the act of defæcation. If we examine internally at this stage, we find considerable swelling in the cellular tissue behind the vagina, either between it and the rectum or a little to one side. The parts are exquisitely tender to the touch, and the tumour is hard and tense.

The inflammation runs rapidly into suppuration—24 or 48 hours being often sufficient for the formation and escape of matter. The pain, weight, and bearing down are then diminished, but other symptoms, peculiar to the formation of an abscess, are developed. A vaginal examination will now detect the softening of the tumour, with fluctuation, and the thinning of some point in the parietes of the vagina or rectum.

If the disease be allowed to progress naturally, an opening is soon made into the vagina or rectum, through which purulent matter, having generally a fetid odour is discharged.[1] After this, the pelvic tumour subsides, and, if the sac be not obliterated, the discharge may go on for a considerable time. Occasionally the orifice closes, and allows the abscess to refill—to be again evacuated by the same way.[2]

[1] The abscess does not always open at the point we should anticipate; from the looseness of the cellular tissue, the matter is very apt to burrow and escape at some distant part. Fistulous openings may be found outside the orifice of the vagina, as well as in its walls or in those of the rectum.

[2] Sir C. Clarke relates cases of this kind where a fistulous opening was formed, and offensive matter discharged whenever pressure was made. One patient was cured by preventing the accumulation and improving the constitution.

During the inflammatory period, there is generally some febrile disturbance—the patient complains of weariness and aching limbs, of headach and thirst—the pulse is quick, and there is a good deal of restlessness and irritability. The occurrence of rigors points out when matter is formed and then the other symptoms subside, followed by debility and exhaustion if the discharge be allowed to persist for any length of time, and occasionally by irritative fever. The effects of the complaint upon the patient's constitution will, of course, be greater when it occurs during the recovery from parturition.

Some of the inguinal glands occasionally become enlarged during the acute stage, and return to their natural state on the subsidence of the local affection.

Diagnosis.—The feeling of weight at the external parts and the bearing down might at first give rise to suspicions of prolapse of the uterus or vagina, but an internal examination, by pointing out the nature of the complaint, will at once decide the question. If the abscess have burst, purulent matter will escape when the tumour is pressed. The condition of the rectum should also be the subject of careful examination.

Treatment.—At an early period an attempt may be made to arrest the disease by the application of leeches to the vulva or perineum, followed by fomentations or poultices. If we fail in attaining this object, fomentations, poultices, or vaginal injections of warm water may still be applied to hasten the suppuration. When matter is formed, it will be expedient to puncture the abscess at the lowest part, and evacuate the fluid completely, in order to prevent it burrowing and opening in some inconvenient situation. If the orifice be sufficiently large, the abscess will generally heal without much trouble. The vagina should be washed out with a syringe twice a day, and a piece of sponge may be introduced so as to compress the tumour and prevent the accumulation of pus. Should a fistulous opening be formed, it must be enlarged, as in fistula of other parts.

The bowels should be freed by enemata daily.

When the disease comes on after delivery, and the constitution of the patient appears to suffer, it will be advisable to give some tonic medicine and to allow a nutritious diet.

CHAPTER VII.

TUMOURS IN THE PELVIS EXTERNAL TO THE VAGINAL CANAL.

The annals of midwifery record numerous cases of difficult parturition owing to these tumours, and some in which the extraction of the child has been found impossible.[1]

[1] For a more particular account of these tumours, the reader is referred to the works of Smellie, Dr. J. Clarke, (London Pract. of Midw.) Denman,

They are generally found on one side of the rectum and vagina, or between these two organs, and very rarely anterior to the vagina. They may grow underneath the mucous membrane of the vagina; in the cellular membrane behind the vagina; or they may be more immediately attached to some part of the osseous framework of the pelvis, whether the product of diseased periosteum or not.

The nature of these tumours varies considerably. Most frequently they consist of cysts containing a fluid differing in colour and consistence in different cases. Two of Mr. Park's cases contained a bloody serum with membranous flakes. They are sometimes fibrous and fleshy, or of a more dense fibrous texture with particles of calcareous matter scattered through them. Occasionally they are of a malignant character, either fungous (Burns) or, more rarely, carcinomatous. In the latter case, there is generally disease of the uterus also. The form of the tumour depends chiefly on its situation, occasionally (Boivin and Dugès, and Van Döveren) it has been found the shape of a polypus and with a pedicle.

Symptoms. The growth of these tumours is very insidious and gradual, in most cases giving rise to no symptoms at all, and remaining undiscovered until some mechanical difficulty caused by their presence, or an examination for another purpose, leads to their detection.

The mechanical symptoms may arise from pressure on the rectum or bladder impeding the evacuation of their contents, or from the impediment to sexual intercourse, and labour may be rendered tedious or impracticable by the diminution in the calibre of the vaginal canal. I have once or twice found the uterus very much displaced in consequence of the lateral and upper portion of the pelvis being occupied by one of these tumours. In addition, the patient will occasionally complain of a weight in the pelvis, and perhaps a darting pain. There is generally an increase in the natural secretion of the part, but seldom to any great amount. The tumour will be discovered by an internal examination, and its situation, extent, and sometimes its character, may be determined. Many years may elapse without any change in the disease, with very little inconvenience and no danger. It has sometimes happened that the encysted tumour has been ruptured, and it either refilled or healed up. In the fungous or carcinomatous tumours alone have we to fear ulceration, and, when it does take place, it is accompanied by a series of symptoms to be hereafter described. (*See Cancer Uteri.*)

Burns, Boivin, Lachapelle, Boivin and Dugès, &c., and to Van Döveren Specimen Observat. Academ. cap. 9; Dr. Drew's Cases in the Edinb. Med. and Surg. Journal, vol. i. p. 20; Mr. Park's paper in Med. Chir. Trans. vol. ii.; Mr. Heming's paper in the Edinb. Med. and Surg. Journal, vol. xxxv.; the Journal Complement, vol. xxxvi. p. 434, and the Dict. des Sciences Med. vol. lvi. p. 469, art. Vagina, by M. Murat; Dr. Montgomery's Case of Cæsarian Section in the Dublin Journal, vol. vi. p. 418, &c. &c.

Diagnosis. Any of the circumstances which have been mentioned, as calling our attention to this disease, require an immediate internal examination, which will discover the seat and generally the nature of the obstruction. The acute symptoms which accompany the formation of an *abscess between the vagina and rectum*, the time of its occurrence and the peculiar cause, will enable us to distinguish the tumours I have been describing from that disease. The state of the uterus should be carefully ascertained, as it may throw light upon the diagnosis.

Treatment. If the patient be not pregnant nor in the way of becoming so, and if the symptoms (mechanical and pathological) be slight, it will scarcely be advisable to interfere, unless indeed the tumour be of that form and in that situation which will render its removal easy (as, for example, in polypus of the vagina), or its contents of that character which will afford a probability of their evacuation by puncture and of the subsequent obliteration of the sac. In such cases, either operation (excision or puncture) may be performed, and in the manner most likely to ensure success. But the case is otherwise if the patient be pregnant. From a careful comparison of the cases on record with the results of different plans of treatment, it is evident that if the tumour contain a fluid, it ought to be opened, or, if it be solid and removable without much difficulty, it should be excised, previous to the commencement of labour. If neither be practicable, other measures must be adopted at the time of delivery, and these will be found detailed in all the standard works on midwifery.

SECTION II.—DISEASES OF THE UTERUS.

CHAPTER I.

PRELIMINARY OBSERVATIONS.

Before proceeding to the consideration of the special diseases of the uterus, a few more general observations on their pathology and diagnosis may not be out of place.

First, then, as to the *Pathology*. The diseases of the uterine system may be divided into functional and organic. The former consisting in those variations from the natural secretion of the menses which are commonly described under the names of Amenorrhœa, Dysmenorrhœa, and Menorrhagia. These varieties have one peculiarity in common, viz. that they are equally remote from the proper amount of secretion, though in opposite extremes. The menstruation may be scanty or altogether absent, whether its place be supplied by a vicarious discharge (uterine leucorrhœa) or not, or it may be in excess.

But this is not all the difference between them—the degree of pain and difficulty is an important consideration. Menstruation ought to take place without suffering, but more frequently there is some distress, and in dysmenorrhœa the pain and anguish may be very great. The character of the excreted fluid varies at different times—it ought to be the colour of venous blood ; it is sometimes lighter, merely tinged with red, and sometimes darker. It may possess greater or less consistence than usual. In the healthy state it does not coagulate,[1] but, in some varieties of menorrhagia, clots are discharged. It has generally a faint sickly odour, which is occasionally superseded by a strong disagreeable smell. It occurs ordinarily about every twenty-eight days, and continues three or four, but it may occur much oftener, and last double the usual time.

An internal examination rarely reveals any thing unusual in the state of the uterus. The density of that organ may vary a little, and the heat be increased. In menorrhagia, the os uteri is more open, and the cervix more flabby than usual.[2] These menstrual disorders may assume a sthenic or an asthenic form, the former is more frequently seen in young females, and the latter, when the activity of the sexual organs has somewhat subsided. The constitution of the patient also very often determines the character of the functional disturbance. (*See Dysmenorrhœa.*)

The matter excreted appears of much less importance than the regular performance of the function, inasmuch as a vicarious discharge often supplies the place of the healthy secretion for some time without deterioration of health. (*See Uterine Leucorrhœa.*) None of these disorders, when uncomplicated, have any tendency to run into organic disease of the womb. We see them continuing for years, and yet leaving no pathological traces. Even where—as in menorrhagia—the loss to the system is so great as to bring on secondary attacks which may prove fatal, there is no evidence of disease discoverable by a *post mortem* examination of the uterus and ovaries. They may be paler and more bloodless than usual, but that is all. As to the proximate cause of these functional disorders—whether it consist in some peculiar condition of the ovaries—in some derangement of the circulation in the uterus—in deficient

[1] This property has by all authors been considered to depend upon the absence of fibrine, and this opinion is confirmed by the slowness with which putrefaction takes place. As the cause of putrefaction is assumed to be the presence of azote, and as fibrine is the most highly azotized part of the blood, it was concluded, with some reason, that the absence of fibrine was the cause of the slow putrefaction of the menstrual secretion. In the British and Foreign Review for July, 1836, there is a notice of the discovery of free phosphoric and lactic acids in the menses by Dr. Retzius, of Stockholm. Dr. R. opposes the idea usually adopted as to the relation between putrefaction and the presence or absence of azote, and denies the fact of the menstrual blood containing no fibrine, but he believes that it is dissolved or modified by the free acids so as to prevent its subsequent separation.

[2] Boivin and Dugès (Trans.) p. 13, note. Ibid. p. 12, note.

or disturbed nervous influence—or in the state of the lining membrane,[1] it is difficult to decide; probably each may in turn be an efficient cause, but I am inclined to consider the latter as the most frequent, inasmuch as precisely similar constitutional symptoms arise from uterine leucorrhœa, which we know to be an affection of the lining membrane of the uterus.[2]

The local symptoms to which these functional disorders give rise are few and often obscure; there is generally some pain or uneasiness in the pelvis, extending round the lower part of the back and

[1] The existence of a lining membrane is denied by Merry, Morgagni, Assoguidi, Campion, &c. and doubted by Boivin and Dugès, but it is admitted by almost all other anatomists. Its physiology, and the pathological changes to which it is subject, place the matter beyond all question.

[2] The menses are usually placed by writers on physiology among the excretions, (and correctly so, as far as the fact, that the fluid when thrown off, has no further use, is concerned,) but pathological observations would seem to extend this view somewhat. For, if the catamenia be merely some portion of the circulating fluid which is excreted, because its remaining in the blood would be noxious, must we not infer that the injurious effects of amenorrhœa are caused by the presence of this portion? But in such a case the uterus and ovaries would merely be affected equally with other organs, whereas they are often the only ones affected and always the most prominent, for a very important function (conception) is destroyed: and further, unless the quality of the blood is altogether changed during gestation and lactation, we must be at a loss how to explain the immunity from disease during those periods of amenorrhœa. From these considerations I conclude that if the menses be an excretion, menstruation as a function has a more important "*role*" than the mere elimination of some of the elements of the blood, and that its due performance is even more necessary for uterine than for the general health.

There are some ingenious and plausible opinions advanced on this subject by M. Mojon de Genès, in an essay on menstruation published in the Revue Medicale for March, 1836. He denies the existence of peculiar secreting apparatus, *because* menstruation, or a substitute for it, takes place from other parts of the body where there is no such apparatus. He supposes the fluid to escape through the porosities of the capillaries, aided by electric galvanism, *because* that agent favours such transudation through dead membrane (as a bladder, for instance).

To these reasonings I would answer, 1st, that the vicarious discharge from other parts of the body is blood and not menses; and 2d, that the phenomena developed in dead structures do not prove the existence of similar phenomena in living ones.

In justice to M. Mojon, however, I will give his own conclusions:—

1. Menstruation takes place, neither from the extremities of arteries nor of veins, neither by their rupture, nor by a special order of exhalants, nor lastly from crypts or follicles in the utero-vaginal mucous membrane.

2. Menstruation is the result of a peculiar transudation through the pores in the tissue of the capillary vessels of the utero-vaginal cavity.

3. The action of electricity, proper to our organisation, has great influence upon the phenomena of menstruation, as well by increasing the permeability of the capillary tissue as by accelerating the circulation therein, and perhaps by rendering the blood more fluid.

4. Electricity is one of the most powerful means of treating amenorrhœa (from inaction) with success, especially in females of lymphatic temperament and weak constitution.

abdomen, and sometimes down the thighs, occasionally alternating with headach. In dysmenorrhœa, this pain is exceedingly severe. There is also now and then some sympathetic irritation of the bladder and rectum.

A knowledge of the source (the ganglionic system) from which the uterus and appendages are supplied with nerves, will explain the absence of more severe local symptoms; and, on the other hand, if we reflect on the sympathetic relations of other organs with the uterus, we cannot be surprised at the numerous and distant affections which follow in the train of long-continued uterine disturbance.

In addition to the periodical congestion or "*hyperæmia*," we find the womb and appendages subject to attacks of inflammation both of the lining membrane and of the muscular and vascular tissues, followed by the usual consequences—induration, softening, ulceration and abscess. The veins and lymphatics may be filled with purulent matter, or the uterine cavity may be distended with air, fluid, or degenerated masses called moles and hydatids.

Lesions of nutrition also take place, and one of the most frequent results is the formation of fibrous tumours. These are found of different consistence, either loosely fibrous, soft, and almost granular; or dense, with a distinct fibrous structure, and occasionally containing portions of calcareous matter.[1] They may be developed either immediately under the peritoneal covering, or the lining mucous membrane, or in the muscular substance. It will be found, however, that their origin involves more or less of the uterine tissue. Their vascularity is seldom very marked.

The womb is subject also to a formidable series of malignant diseases, in the form of fungous growths, ulceration, or of morbid deposition. Fungus of the uterus is of different kinds. The one, denominated cauliflower excrescence in this country, and "vivaces" in France, appears to be nothing more than a congeries of vessels and their connecting cellular substance. Its malignancy appears to

5. Metrorrhagia, menstruation, and leucorrhœa, may be regarded as resulting directly from the greater or less permeability of the tissue of the utero-vaginal capillaries.

6. Fumigations with carbonic acid gas, in the cavity of the womb, may be employed with success against the uterine pains which precede and accompany difficult menstruation, especially in young women of an athletic and sanguine temperament.

In justice to all parties, it should be stated, that the opinion that the blood "escapes from the capillary arteries," was advanced long before M. Mojon's essay was written. (See Friend's Emmenologia, p. 5.)

[1] M. Lisfranc, in his clinical lectures, edited by M. Pauly, makes four shades of colour peculiar to fibrous tumours:—first, reddish; second, white; third, yellowish; fourth, pearly bluish gray. In referring, for the first time, to M. Lisfranc, it is impossible to do so without expressing regret that he should have allowed himself a latitude in his statements touching a certain operation (excision of the neck of the uterus) inconsistent with strict truth. After reading the statements of M. Pauly, my readers must decide for themselves what degree of credit may be due to M. Lisfranc's other asserted facts.

consist in its determinate reproduction after excision, and in the fearful hemorrhages attendant upon it. Other fungoid productions have been described, some having a lardaceous appearance when cut into, and others resembling fungus hematodes. All give rise to hemorrhage—all make serious inroads upon the constitution long before they prove fatal, and the latter are liable to an unhealthy species of ulceration.

The malignant ulceration, or corroding ulcer, as it is called, is totally distinct from cancer. It resembles phagedenic ulceration of other parts. There is no morbid deposition at any period of the disease. The cervix uteri is the first part attacked, and from thence, in defiance of the most active and most judicious treatment, the ulceration spreads with varying rapidity to the body, and, if life be not previously terminated, to the fundus. The vagina participates in the disease, and perforation of the bladder or rectum is a very common occurrence.

Carcinoma, or cancer of the uterus, according to the excellent description of Dr. Copland (Dict. of Pract. Med. p. 283), consists of "two distinct substances; the one, hard, fibrous, and organised, the other soft, and apparently inorganic. The former composes the chief part of the diseased mass, and consists of septa which are opaque, of a paler colour than the soft part, unequal in their length, breadth, and thickness, disposed in various directions; sometimes forming nearly a solid mass, in other instances, a number of cells or irregular cavities, which contain the soft part. This latter is sometimes semi-transparent, of a bluish colour, and of the consistence of softened glue; at other times, more opaque, softer, somewhat oleaginous, and like cream in colour and consistence." The former portion is the cellular tissue in a state of induration and hypertrophy, the latter is the morbid secretion or deposition characteristic of the disease. There are some variations from the ordinary proportions of the constituent tissues, and occasionally blood appears to be mixed with the softer matter. These varieties have obtained different names, such as cephaloma, hæmatoma, encephaloid matter, &c., but essentially they are alike, and run a similar course.

The cancerous deposition may take place:—1. In the neck of the uterus alone; and perhaps this is the part *first* attacked in most cases, as Sir C. M. Clarke conjectures, owing to the numerous glands situated here. 2. In the body of the uterus; the neck remaining intact. 3. In both these places at once. 4. In the cellular tissue which connects the uterus to the neighbouring parts, and especially about the rectum and bladder. The increase of bulk from the deposition is often very considerable, even after ulceration has proceeded so far as to cause death. From the ulcerated surface an irregular fungus springs, extremely tender, and discharging a fetid, unhealthy sanies.

In some cases, though rarely, the ulceration precedes the deposition, which takes place as the ulcer advances; to this the name of

cancerous ulceration has been given, while the former has been called ulcerated cancer.[1]

The uterus is also subject to various accidents, such as rupture, displacement, &c. The first takes place most frequently at the junction of the vagina with the cervix, and is generally the consequence of narrowing of the upper outlet, and the violent propulsion of the child by the labour pains, or it may occur in other situations as the result of disease of the uterus rendering the parietes less firm and resisting than usual. A still more rare variety results from the closure of the canal of the cervix, and accumulation of the mucus in the cavity, followed ultimately by thinning of the walls and rupture, just as in abscess. Partial rupture, i. e. rupture of the muscular or serous covering alone, has also been met with.

Displacements of the uterus are of different kinds, and are consequent upon a relaxation of the usual supports of that organ, and an expulsive force more or less suddenly applied. According to the modifications of these two conditions, we may have inversion, retroversion, anteversion, or prolapse of the womb.

Some additional light may perhaps be thrown upon these pathological conditions, and the period of their occurrence, if we briefly consider the anatomical changes which the uterus and appendages undergo at the great epochs of female life, and the predisposition thence arising to certain diseases.

Before menstruation has commenced, the uterus, when dissected, exhibits a very dense structure, with vessels and nerves of a size sufficient for its nutrition, but no more. Its substance is of a light flesh colour, and its lining membrane pale. The ovaries are small, pale, and undeveloped. Up to this period, diseases of the internal organs are extremely rare, almost the only abnormal states being errors in growth and development—or, in other words, "monstrosities by defect or excess."

But, if we examine the womb during menstruation, we shall find that a change has taken place. It has increased in size, and is of a softer and more spongy texture—the vessels are enlarged, and carry more blood—a corresponding space having been made for them in the interstices of the fibres. The nerves, too, if not much larger, are more perceptible. The mucous membrane is of a florid red colour, covered with more or less of the menstrual discharge. It is true, that during the monthly intervals, these peculiarities are softened down, but still the essential characteristics (the change in the vessels and nerves) are present, and a new train of pathological phenomena commences. First, we have various functional disturbances, and if the congestion be considerable, a discharge of blood, which may also take place during an interval from irregular nervous influence. Neuralgia of the uterus, hysteria, leucorrhœa, and inflammation with its consequences, may be included in the list, although the latter is more frequent at a later

[1] See Andral's Precis d'Anatomie Pathologique, vol. i. p. 683.

period. The sympathetic influence which the establishment of this function exercises over other and distant organs, ought at least to be mentioned, as important in the history of their morbid states. The brain and nervous system—the stomach and intestinal canal—the glandular system, &c. are exposed to new and energetic influences, which, when unhealthy, may produce disease, or the phenomena of disease, in those organs.

A further change of structure takes place after impregnation and during gestation. The mucous membrane lining the uterine cavity, which, in a healthy subject, and under ordinary circumstances, secretes but a moderate quantity of fluid, becomes more vascular, and is quickened into increased action for the production of the membrana decidua. The substance of the womb loses its peculiar density, and the interlacing of its fibres becomes very evident, the interspaces being greatly enlarged for the accommodation of the blood vessels, which (especially at the part to which the placenta is attached) are very much increased in size, carrying many times the ordinary quantity of blood. (Hunter, &c.) The lymphatics (Mascagni) and the nerves (Chaussier; Tiedemann) are also proportionately developed.

The fallopian tubes undergo morbid changes similar to those which take place in the uterus, but the affections to which they are most subject are:—1. Obliteration of the canal in part or whole of its extent. 2. Distension by serous, purulent, sanguinolent, tubercular, or encephaloid matter. 3. Adhesions to the uterus, ovaries, or abdominal parietes; by which means the collection of matter alluded to is sometimes evacuated. (*Lisfranc.*)

The ovaries, and especially the one containing the corpus luteum, are more vascular than usual, and increased in volume.

The principal uterine disorders which occur during pregnancy are in accordance with the anatomical condition of the organ, and consist of the irregular distribution of blood, as congestion, inflammation, hemorrhage, &c.—of neuralgic pains, and spasmodic contractions of some of the muscular fibres.

After a safe delivery and a healthy convalescence, these peculiarities, of course, lose their prominence, but they do not leave the womb in the same state as before conception, and every succeeding pregnancy developes more strikingly these changes.

The vessels, which were so much elongated, become tortuous,[1] their coats are found thicker, and their calibre greater than natural. The nerves also, though not so large as during pregnancy, remain of considerable size and tortuous. The substance of the uterus does not return to the same density as before gestation, unless the interval after delivery be very long.

Now the diseases which prevail from the period when child-

[1] It is a remark, I believe, of the late Dr. Parry, of Bath, that the tortuosity of vessels is not a provision for some function they have yet to fulfil, but the result of some previous condition or some function already performed.

bearing commences until it is concluded, answer exactly to those anatomical characteristics. During this time, there is much organic activity; the amount of blood in circulation is considerable, and the nervous influence is often powerful; and we find accordingly, that inflammation of the lining membrane and of the substance is much more frequent than previously. Moreover, these circumstances would lead us to expect both hemorrhages and neuralgia, and these we have abundant opportunities of observing. During the earlier portion of the time allotted to childbearing, we seldom see ulceration to any very great extent, and lesions of nutrition are not very common. Towards the latter part of this period, we may perceive a gradual transition from diseases of a sthenic to those of an asthenic character, corresponding to the gradual change effected in the organ.

In elderly women, the following uterine peculiarities are observed. The vessels and nerves have diminished in calibre, and the coats of the former are occasionally found diseased.

The lining membrane is thicker than at an earlier age, and pale. The substance has acquired nearly its primitive density throughout, and considerably more at the cervix uteri, presenting, in fact, a cartilaginous appearance. The cavity is reduced in size, and the canal communicating with the vagina is nearly, and in many cases quite, obliterated.

The vagina and uterine ligaments having been so often put upon the stretch, are greatly relaxed. The ovaries are atrophied, and their coats so shriveled, that they appear divided into small lobes.

In accordance with this change, we find active inflammation much more rare, but destruction of the substance more frequent. Hemorrhages take place, but of a more passive character. The pathological phenomena which occur at the cessation of the menses, illustrative of the disturbed nervous influence, causing irregular circulation, are followed by lesions of nutrition (fibrous and fleshy humours, &c.) and morbid growths and depositions, (fungus and cancer.)

An accumulation of mucus in the cavity—the canal of the cervix being obliterated—will, by thinning the parietes in some one point, ultimately lead to rupture; and the relaxation of the supports of the uterus readily admits of prolapse of that organ.

The ovaries undergo similar pathological changes: in early life, after the establishment of the catamenia, they are liable to disturbances of the circulation (congestion or inflammation); at a more advanced age, these are superseded by lesions of nutrition, giving rise to various solid deposits, or, by excess of secretion, ending in accumulations of fluid, with malignant and fungoid diseases, nearly similar to those of the uterus.

I have thus, in a very cursory way, pointed out the different lesions to which the uterine system is obnoxious, and by tracing the anatomical changes which are effected at the great epochs of

female life, I have shown I think that judging from these alone, we might anticipate the usual successive development of diseases. This subject possesses great pathological interest, nor is it without its practical uses; since, by foreseeing the character of disease to which each period is subject, we can use such means as experience may suggest to prevent or to mitigate them.

The Diagnosis of uterine disease is of great importance, and in many cases requires great care and skill. Information for this purpose is derived from three sources:—1. From the symptoms. 2. From a manual or tactile examination. 3. From a visual examination by the speculum. A few words will explain the peculiarities and advantages of each. I have already mentioned the obscurity and paucity of the local symptoms in the functional disorders of the uterus; and although in the organic diseases there can be, perhaps, but little doubt as to the locality of the affection, still we must often be uncertain as to its character, and unable to distinguish one from another, or the uterine from the ovarian.

For example—deep-seated pain accompanies irregular menstruation, inflammation and ulceration;—hemorrhage may be the result of fungous growths, of polypi, or of ulceration, and it may occur independently of any of them;—increased discharge may result from chronic inflammation of the lining membrane, or from simple ulceration, and fetid discharges may proceed from corroding ulcer or from cancer. It is true, that a careful collating of all the symptoms in an individual case will sometimes clear up the difficulty, but the majority of the mistakes in diagnosis (and they are very numerous) have arisen from trusting too much to this source of information, and neglecting to combine with it others more certain and more fruitful.

In all investigations into the symptoms of uterine disease, we should, first of all, localise the complaint as far as possible, and then discover its effects upon the different functions. The discharges should be carefully examined, and their relation to the menstrual secretion ascertained, i. e. whether they occur about the same time or during an interval—whether they increase or diminish before or after the appearance of the catamenia—whether their colour varies from what is usual—or, if they possess an offensive smell. If the discharge be sanguineous, we should discover whether it commenced at a menstrual period—whether it is accompanied by pain or bearing down.

These points should all be cleared up as far as possible; and even then there will often remain much that is doubtful. But, as if to compensate for the insufficiency of the ordinary symptoms, we are possessed of other means of acquiring a knowledge of these complaints which, combined with that I have already noticed, will in most cases leave us without excuse for any mistakes we may make. I allude—2. To the power of making a manual or tactile examition. The extent and accuracy of the information derived from this source is very remarkable. By the "*toucher*" we are enabled

with considerable certainty to decide the question of functional or organic disease. We can ascertain the degree of heat and moisture of the vaginal canal—the character of any discharge—the state of the cervix and part of the body; we can discover the presence of ulceration—of laceration—of displacements with the exact account of the mischief: we can detect the existence of scirrhus—cancer—or of morbid growths; by combining internal with abdominal examination, we can throw light upon the distinction between uterine enlargements and pregnancy or ovarian disease. These and many other practical observations are the result of this mode of investigation. The principal points to which our attention should be directed, when making the examination, are—the state of the vaginal canal as to calibre, heat, moisture and sensibility—the condition of the pelvic cavity, whether unusually empty, or filled, and by what—the elevation of the os uteri, its patency, sensibility and integrity—the density of the cervix, its sensibility and freedom from morbid growths or ulceration—the position and volume of the womb, its mobility and sensibility. The nature of the discharge will be observed on the withdrawal of the finger. If there be a breach of surface, its extent should be ascertained, and the co-existence of morbid deposition investigated. If hemorrhage, the state of the fundus and cervix is of importance, and also the existence of a fungous or polypous production. With regard to the two latter, it will be proper to discover, if possible, their attachment, and to enquire as to the possibility of their removal by ligature or excision.[1]

I have alluded to abdominal "*palpitation*" as an adjunct to the "*toucher;*" by it we are enabled to form an estimate of the size of a uterine or ovarian tumour, to conjecture (by the degree of mobility) the presence or absence of adhesions, and to appreciate density of structure, &c. &c.

We may add to these, an examination *per rectum* from which

[1] A few words upon the mode of making a vaginal examination may be useful. If the disease be one involving, or supposed to involve the position of the pelvic contents, it will be necessary that the patient should maintain the upright position; it is preferable (though not necessary) in almost all cases, as the parts come better within reach. The labia are first to be separated, and the fore-finger (previously well oiled) is to be passed from behind forward until it enters the orifice of the vagina. It is then to be passed from before, backwards and upwards, until it reaches the os uteri—taking cognisance, by the way, of the circumstances I have before noticed.

When at the os uteri, we can ascertain any morbid changes there, or affecting the body, and also the state of the upper part of the pelvis. When we have obtained all the information we can, the finger may be withdrawn. The greatest gentleness should be used, and the examination should be repeated as seldom as possible. It is rarely necessary to introduce more than one finger. In cases where the bladder is implicated, a catheter introduced into that viscus will aid our investigation. An examination should not be attempted too soon after great exertions; it will not be borne during the acute stage of inflammation of these parts, and in some cases we must be cautious how we receive its evidence.

we often derive very valuable information. The state of the body and ligaments of the uterus is thus brought under our observation —the size of any foreign growth is better estimated than by the "toucher"—the existence of pelvic tumours—of abscess between vagina and rectum—the nature, mobility, and limits of each of these can be more thoroughly investigated, and, with the help of abdominal examination, we may draw a pretty accurate diagnosis between ovarian and uterine tumours.'

We have seen that by the touch, in connection with the local symptoms, we can obtain information on all points, except that of colour; and the accuracy of the knowledge so acquired, is scarcely, if at all, inferior to that obtained by sight. It is very true, that a delicate sense of touch and much experience is necessary, before this degree of perfection will be attained; but it is equally certain, that perseverance in availing ourselves of every opportunity (both on the living and dead body) will ultimately be crowned with success.

The only deficiency in our means of diagnosis, (viz. the not being able to examine the parts by sight,) has been supplied of late years by the introduction of the *speculum;* and to this we undoubtedly owe the extension of our knowledge of uterine and vaginal diseases. Some new ones have been observed, and others already familiar, have been more accurately described. There are, however, very considerable difficulties in the way of its becoming common. It requires greater exposure, and is more revolting to feminine delicacy than the other mode of examination. In some cases, also, it is much more painful. The information obtained by it is also more limited, being confined to the state of the vagina and cervix uteri. Still it is very frequently a most valuable adjunct.

It enables us to detect variations from the natural colour of the mucous membrane—slight erosions which might be passed over by the finger—elevations on the cervix uteri or on the walls of the vagina, too little raised to impress the sense of touch. The length and thickness of the cervix uteri can be accurately ascertained,[1]

[1] A description of the state of the neck of the uterus before and after impregnation, as discovered by the speculum, was published by Dr. Marc d'Espine, of Geneva, in the Archives Generales de Médecine for April, 1836; and as it throws considerable light upon the first steps in all pathological investigations (i. e. a knowledge of the natural condition of parts), I shall offer no apology for translating the most important portion of the memoir. "The cervix uteri, examined by the speculum, in healthy females who have never been pregnant, resembles a small nipple, having a greater length than breadth—deeply situated, and somewhat above the axis of the vagina. The orifice is round or triangular, its vertical and horizontal diameters being always equal. The measurements of the neck are pretty accurately as follows:—The diameter of the base of the cervix is from 6 to 9 lines (12 lines make an inch of our measure), the length of the neck from 8 to 10 lines, and the diameter of the orifice one or two lines at most. There are some exceptions, however, for out of 29 females—seven having been pregnant—who were examined one or more times with the speculum, 22 answered to the description already given, and seven differed from it; 4

and we are able to discern the colour of the surface of an ulcer. It will also confirm many other circumstances which have been recognised by the "*toucher*."

In a practical point of view it is very valuable, as enabling us to apply remedies (such as leeches, caustics, &c.) to the very part affected, without injury to the neighbouring organs. On the other hand, we must be careful that we do not mistake for morbid changes, those appearances which are caused by the instrument itself. For instance, too much pressure may alter the elevation and position of the uterus, and may produce a swelling and puffiness of the cervix.

The speculum should not be used at all when the vagina is very tender.

Of all the different species of speculum, the French one, invented I believe by Madame Boivin, is by far the best, its introduction gives the least pain, and it exhibits the parts with the slightest possible alteration.[1]

of them having the cervix larger, and 3 having it less prominent or entirely flattened.

"In two of them, the orifice, instead of being round, was triangular, and resembled a slit, but much smaller than is usual after bearing children. Age alone appears to have very little influence upon the dimensions of the neck of the, uterus for among the 7 cases of exceptions to the ordinary rule, but one was more than 30 years old, whilst among the 22 there were 3 who had exceeded that age. On the other hand, a great change takes place after bearing one or more children at full term: in the first place, the cervix is increased in volume, and more or less flattened; so that the diameters of its base are always greater than its perpendicular length. It has also lost its mamellated shape, and that form of orifice which was the exception in the virgin uterus, is now the rule; it is almost always linear, very rarely indeed round or triangular. The length of the transverse fissure varies, but it is never less than 3 lines, and it may be from 6 to 8; in one case it measured an inch. There does not appear to be a great difference between the cervix uteri of those who have borne many children and those who have had but one; in the former, the neck is somewhat more voluminous und the orifice larger. In females who have conceived and been delivered prematurely, the change in the os and cervix uteri will be found to accord pretty much with the period of delivery;—after the fifth or sixth month, it will nearly resemble the same organ in primiparous females;—before that period, but little alteration will be discovered. The diameter of the orifice in both cases is very small.

"In three women who were pregnant, the parts presented the following characteristics when examined by the speculum:—The cervix was more or less enlarged, it was soft, and the lips swollen; in two, the orifice was so dilatable, that a tolerably large-sized bougie could be introduced. This latter peculiarity is important, since it never occurred in 77 women who were not pregnant. There still remains one observation as to the value of the notched or sinuous state of the os uteri, and the indications to be drawn from it. By examining the cases in which it occurred, we arrive at the conclusion, that, in general, it is only found in those females who have borne many children; but there are primiparous cases, in which we meet it where the labour has been accompanied with difficulty, violence, or accident."

[1] The mode of using the speculum is as follows:—The patient being laid on her back or side, with her hips on the edge of the bed, the labia are to be

CHAPTER II.

DISORDERS OF MENSTRUATION.

The functional derangements of the uterus are divided into three classes. 1. Amenorrhœa, including absent, suppressed, and vicarious menstruation. 2. Dysmenorrhœa, difficult or painful menstruation. 3. Menorrhagia, or excessive menstruation, whether blood accompany the catamenia or not.[1]

1. AMENORRHŒA.—We find two very distinct classes of Amenor-

carefully separated with the fingers of the left hand, and the point of the instrument (well oiled) introduced into the orifice of the vagina with the other, and passed a little backwards towards the sacrum, and upwards. When it has penetrated from four to five inches, the blades may be separated, the obturator withdrawn, and a light applied to the outer extremity of the instrument. The parts at the inner extremity will then be distinctly visible, and their state can be ascertained.

If the cervix be not at the inner extremity of the speculum, it must be withdrawn a little, and a fresh attempt made in a somewhat different direction until the object be attained.

When the examination is ended, care must be taken not to injure the vagina by the withdrawal of the instrument too suddenly, or when distended too widely; we must also guard against including in any part of the instrument either hair or a portion of the mucous membrane.

[1] Power, in his "Essays on the Female Economy," divides these disorders, into three classes—A. Deficiency of the menstrual actions. B. Excess of the menstrual actions. C. Irregularity of the menstrual actions.

Denman, Burns, Hamilton, Dewees, Locock, and the generality of British authors, divide the disorders of menstruation as in the text. Dr. Blundell adds a chapter on offensive catamenia.

Capuron, Nauche, Boivin and Dugès, adopt a similar division.

Carus includes, among the irregularities of menstruation, delayed menstruation, incomplete menstruation, too early menstruation, and suppressed menstruation.

Siebold has a chapter on the precocious and tardy development of the menses—on the too excessive or scanty discharge—on its suppression—on painful menstruation, and on vicarious menstruation. To these Jörg adds, menstruation repeated too frequently, or not often enough. Mende adopts an arrangement nearly similar.

It is impossible to make any arrangement which will include every variety; there will always remain cases belonging to neither class, apparently partaking of the characteristics of two or more, and which nothing but an extended experience can elucidate.

There is a source of error which it is right that I should point out, and no opportunity is so fit as when we are considering the classification of these disorders.

The term used by females to express the proper performance of the function of menstruation, is generally "being regular," and as, from the delicate nature of the investigation, both parties are anxious to terminate it as quickly as possible, an assertion of "regularity" is often given and received when a little more enquiry would have discovered "irregularity" in all the circumstances, except perhaps in the periodical appearance of the discharge. It should never be forgotten, that variations in the *quantity* and *quality* of the discharge are as important, and require as much attention, as any other peculiarity.

rhœa—one, where the menses have never appeared, and which has received the name of "*emansio mensium*," and another, where having been regular for some time, they have been suppressed, this is called "*suppressio mensium*." It will be necessary to consider these in detail.

Emansio mensium, or *absent menstruation*.—Great difference exists as to the period of the commencement of menstruation, not only in different countries, but also in our own. The most general age is about 15, but it occurs much earlier, or may be delayed to a much later period.[1] These variations will be found to correspond pretty exactly with the proportionate development of the body and the genital system. There are also malformations of the uterine system, which have an important effect upon this function. Lastly, the uterus may be acting fairly enough, whilst the product is not

[1] In an essay on "the natural history of menstruation," published in the Edinburgh Medical and Surgical Journal, vol. xxxviii. p. 277, Mr. Roberton, of Manchester, has given a mass of very valuable information on this subject. Out of 450 females he found that—

10	menstruated for the first time at	11 years old.
19	. . . . .	12
53	. . . . .	13
85	. . . . .	14
97	. . . . .	15
76	. . . . .	16
57	. . . . .	17
26	. . . . .	18
23	. . . . .	19
4	. . . . .	20

There are instances of still earlier menstruation on record. There is a case by Dr. Martin Wall, in the 2d vol. of the Med. Chir. Trans. of a child who menstruated at nine months old, and continued "regular" subsequently, and another in the American Journal of the Med. Sciences for November, 1832, by Dr. Le Beau of New Orleans, of a child born with marks of puberty, and in whom the catamenia appeared at three years old, and were afterwards regularly discharged. Additional cases and references may be found in the writings of Lobstein, Meyer, Ploucquet, &c. &c.

As to the effect of climate, it is stated by all or nearly all medical authors on this subject, that the hotter the climate the earlier the development of the menstrual function, and vice versa, the colder the climate the later the menstruation. It is said to commence at eight or ten years of age in the East Indies, and about twenty in Greenland. Its duration being pretty equal, the women of hot countries who are mothers at ten become old women at thirty, whereas in colder climates menstrual life is considerably prolonged.

This, I say, is the sum of what is generally stated, and like many other doctrines, it is received as true to avoid the trouble of investigation. Thanks to the indefatigable industry of Mr. Roberton, however, the question has been at last fully examined, and as far as the testimony of non-professional travellers is valid—it is established that the same variation (as to the commencement of menstruation) which is observed in these countries, exists every where, but that as a rule, it is neither so much earlier in hot climates as has been supposed, nor so much later in cold ones.

The fact which has, probably, led to this error is, the intercourse between the sexes which takes place at a scandalously early age in hot climates, and

the menses. We shall notice these three varieties somewhat more particularly.

a. Amenorrhœa, from congenital malformation.—The influence of the ovaries upon the menstrual secretion has latterly been a subject of great interest to obstetricians. It is now believed, that not only are they concerned in the process of generation, but that they are the efficient cause of menstruation.[1] We know that very considerable changes take place in them, as well as in the uterus, at

hence the instances (not of every-day occurrence) of maternity at ten years old. I must refer to the essay itself for further details. I shall only now extract from it the age at which menstruation ceased in 77 individuals :—

In 1 at the age of 35 years				In 26 at the age of 50 years			
4	.	.	40	2	.	.	51
1	.	.	42	7	.	.	52
1	.	.	43	2	.	.	53
3	.	.	44	2	.	.	54
4	.	.	45	1	.	.	57
3	.	.	47	2	.	.	60
10	.	.	48	1	.	.	70
7	.	.	49				

In a perfectly healthy female, the catamenia ought to be and are thrown off without concomitant suffering; but in the present state of society this is not generally the case. For some days previous to the eruption, the patient is liable to headach, languor, and heaviness—she is indisposed to exertion, and complains of pain in the back, loins, and down the thighs. Occasionally there is uneasiness and a sense of constriction in the throat about the thyroid gland. There is a peculiar dark shade over the countenance, and especially underneath the eyes. The cutaneous perspiration has a faint sickly odour. The mammæ are enlarged and often painful: the digestion is somewhat impaired and the appetite fastidious. After these symptoms have been present for a day or two, the menses appear, and the uneasiness diminishes. It occasionally happens that the first or second period will pass without any discharge in healthy females. It lasts from three to six days, and from four to six ounces of fluid are discharged.

The catamenia ought to return every 28 days, except during gestation and lactation, when they are altogether absent.

If the internal genital organs be examined during a menstrual period, the uterus will be found swollen and vascular, its structure less dense than usual, and its lining membrane injected, floccy, and bedewed with menstrual secretion.

The ovaries and fallopian tubes are also swollen and very vascular.

A correct representation of this state will be found in Dr. Hooper's work "On the morbid anatomy of the Uterus," pl. 1. fig. 2.

[1] Dr. Friend, in his Emmenologia (1729), alludes cursorily to the influence of the ovaries upon menstruation.

Dr. Power, in his "Essays on the Female Economy," attributes menstruation entirely to the action of the ovaries; he conceives that gestation is the natural condition of the female genitals: "that a woman menstruates because she does not conceive; that certain changes take place in the ovarian vesicles preparatory to the transmission of the ovum, and that parallel changes are taking place in the uterus, which may issue in the formation of the decidua;" but that "if the stimulus of impregnation is denied, this increased action is not carried to a sufficient height to produce properly that effect; nevertheless it is sufficient to give rise to the effusion of a fluid, *which fluid is the menstrual fluid.*" (p. 19.) Again, he says, p. 28, "the efficient cause of men-

puberty[1] and at the cessation of menstruation. In Mr. Pott's case, of a female from whom the ovaries were removed, menstruation ceased, although previous to the operation it had occurred, accompanied with all the signs of puberty. Cases have occurred, where the ovaries have become diseased, so that their structure has been completely destroyed[2] or atrophied,[3] and the effect has been the same—and in some cases of persistent amenorrhœa which have been examined after death, the ovaria were absent. From these cases it is clear, that absence of the ovaries may be the cause of amenorrhœa. The patients with whom this is the case have the body generally well developed and healthy—the circulation active and regular—the organic functions (save one) fully performed. But the breasts are not prominent—the genital characteristics and sexual propensities are not developed—the voice is deeper than usual—a slight beard appears on the upper lip, and there is a mixture of masculine with feminine peculiarities.

But although the ovaries be well developed, other organic deficiencies will equally give rise to amenorrhœa. The uterus may be absent—irregularly or incompletely developed—(Andral, Chaussier, Siebold, Lauth, and Stein)—the canal in the cervix may be impervious—there may be a membrane covering the os uteri—(Mackintosh, &c.)—the vagina may be absent[4]—the sides adherent,

struation may be defined, 'an imperfect or disappointed action of the uterus in the formation of the membrane (decidua), which is requisite for its connection with the impregnated ovum.'"

[1] Boivin and Dugès, p. 26. Locock, Cycl. of Pract. Med. art. Amenorrhœa.

[2] My friend, Dr. Montgomery, has related to me the history of a case of this kind which came under his care. The patient had menstruated regularly up to the period of her admission into Sir P. Dun's Hospital for some obscure abdominal affection. After this time, amenorrhœa supervened, and continued until her death. Upon making a *post mortem* examination, it was discovered that the patient had but one ovary, and that it had become completely disorganised.

The preparation is in Dr. Montgomery's museum.

[3] Morgagni Epist. 46. art. 20. Frank de retentionibus, § 869.

[4] A very interesting case of amenorrhœa, from congenital absence of the vagina, together with a novel method of cure, is related by M. Amussat in the Gazette Medicale for December 12, 1835. The case was shortly this: a young lady æt. 15, was in a bad state of health, as was supposed from the non-development of the catamenia, and was brought to Paris to consult MM. Boyer, Marjolin, Majendie, and Amussat. They found that an effort at menstruation took place every month or five weeks, but without any discharge. The abdomen was swollen, and the patient suffered great agony at each recurring period. On examining the parts of generation, they discovered the orifice of the urethra, but no vagina. The finger introduced into the rectum, detected a large and fluctuating tumor at the upper part of the pelvis, and when a sound was at the same time passed into the bladder, the walls of that viscus and those of the rectum were found in such close apposition, that it was conceived impossible to form an artificial vagina with the knife, on account of the danger of wounding the bladder or rectum. All the

or the orifice closed by adhesion, false membranes, or an imperforate hymen.[1] (Osiander; Voight; Naegelè; Siebold; &c. &c.)

When the uterus is absent altogether,[2] the development of the body generally may be unaffected, and the health may be perfect: but in the other cases—where the *exit* only of the menses is prevented—the secretion may take place, distending the uterus to an alarming degree,[3] and ultimately ending in rupture of that organ, and the discharge of its contents into the peritoneum, giving rise to fatal peritonitis. The health in these cases suffers much, the outward signs of puberty are present, but the patient becomes pale,

medical attendants, except M. Amussat, gave up the case as hopeless, but with rare hardihood and skill, he proposed to separate the contiguous organs by traction, without using the knife. He commenced by depressing the mucous membrane of the vulva with the points of his fingers, in the situation where the orifice of the vagina ought to have been, and, the membrane giving way, he gradually advanced in the cellular interspace between the urethra and rectum—guided by a sound in the former and his finger in the latter—and retaining the ground he gained each day by a sponge tent—until at length he reached the tumour in the pelvis, which he first punctured with a trocar, and afterwards more largely opened with a bistoury, giving exit to a large quantity of dark jelly-like fluid. An additional quantity was discharged by a spontaneous opening into the rectum. The artificial os uteri was kept open for some time by a canula. The operation, of course, caused severe pain and excessive constitutional suffering, but ultimately, owing to the care and skill of M. Amussat, the patient perfectly recovered, and at the time of writing the paper, was menstruating regularly, enjoying good health, and about to call into play other uterine functions. For a more detailed account of this very important case, the reader is referred to the original paper.

In a somewhat similar case related by Dr. Coste (Journ. des Connoisances Med. and condensed in Johnson's Med. Chir. Review,) where the situation of the orifice of the vagina was marked by a *raphe*, and in which menstruation from the age of 13 had taken place through the urethra, he introduced a director into that canal, and divided its inferior parietes, extending the incision downwards to the part which ought to have been occupied by the vagina and inwards towards the uterus. At the termination of this incision internally, Dr. C. discovered the cervix and os uteri. A roll of linen at first, and subsequently bougies, were introduced so as to prevent adhesion, and a very satisfactory vagina was the result.

See also a case quoted by Foderè from the "Causes Celebres," and another in Beck's Jurisprudence, quoted from the New York Medical and Physical Journal.

[1] There are examples on record of very narrow vaginal canal, rendering the transmission of the menses slow and difficult, and complete coition impossible, which, nevertheless, underwent a natural cure during parturition. See Boyer, Memoires de l'Acad. des Sciences, for the year 1771.

[2] Stein's cases in Hufeland's Journal belong to this class.

[3] When speaking of the enlargement of the uterus and abdomen from retained menses, M. Lisfranc observes—"Toutefois il est á noter que la region hypogastrique se gonfle comme par saccades et par accès correspondans aux epoques successives des regles, annoncès, du reste, par tous les symptômes qui dèterminent ordinairement le molimen menstruel." Mal. de l'Uterus, p. 227.

thin, and delicate, loses her appetite, has pain in the back and abdomen, increased every month, with the addition of an endeavour to force downwards. The abdomen also increases in size and becomes tender.

These periodical efforts at menstruation will enable us to distinguish between absence of the uterus, or ovaries, and an imperforate passage; and in all such cases, where the *molimen* exists without the discharge, a careful examination should be made.

Treatment. It is clear that nothing can be done when the uterus and ovaries are absent; or when the structure of the latter has been atrophied or destroyed. But where an obstacle exists to the escape of the courses, it may in most cases be removed, and as death is the result of non-interference, it should be attempted. If the canal of the cervix be impervious, an artificial one may be made by a trocar, or an instrument resembling that used for dividing strictures of the urethra (Stafford's). The membrane covering the os uteri must be punctured, and a probe passed into the cavity.[1] If the vaginal canal be obliterated, an artificial one may be formed with the knife, if the space between the rectum and vagina permit; if not, the parts must be gently torn asunder, as in M. Amussat's case, related in a former page—care being taken to keep the new canal distended by bougies, a sponge tent, or a roll of linen.

If this cannot be done, the uterus may be punctured from the rectum, and the contents thus evacuated.

Great care and attention will be required after these operations to prevent serious consequences. Leeches, cold applications, fomentations, or poultices may be necessary, with the internal exhibition of opiates and laxatives.

When adhesions or false membranes uniting the opposite sides of the vagina, or imperforate hymen[2] prohibit the emission of the menses, our first attempt should be to rupture them by separating the labia and vagina; if we fail in this, the bistoury or trocar must be used, great care being taken to avoid injuring the neighbouring parts.

A quantity of dark-coloured fluid generally escapes at the time, and continues running for some days, until the womb is emptied, and, at the next period, menses of a natural character are discharged, and the health is gradually restored. It will be necessary to syringe the vagina with warm water, and to apply a broad binder around the abdomen by way of support. When all danger of local inflammation is past, some tonic medicine (especially the preparations of iron,) may be given, and generous diet with wine allowed. The bowels must be kept free, and in due time air and

[1] Mackintosh, Pract. of Physic, vol. ii. p. 425.

[2] See Dr. O'Reilly's case in the Dublin Journal, vol. vi. p. 318. Similar ones are to be found in Siebold's Journal, and in many midwifery books, both English and foreign.

exercise should be taken, and any other means adopted which may be calculated to improve the general health.

b. Simple Amenorrhœa. Before we can pronounce any case to belong to this class, we must ascertain that the development of the uterine system is in proportion to that of the body generally, that the external signs of puberty are present, and that no discharge whatever escapes from the vagina. Of this latter condition we shall speak more fully hereafter; but, if the former are absent, it is evident that we have no ground to expect the establishment of the menstrual function, and that the case is rather one of protracted puberty than of amenorrhœa.[1] We must also be on our guard lest the case be one of congenital malformation, such as I have already described. The subjects of the simple form of amenorrhœa may be either of a plethoric habit of body and robust health, or weak, pale, and delicate in constitution, and the symptoms vary in each.[2] In the former, the constitutional suffering is more severe, with considerable febrile action, flushed face, quick full pulse, thirst, &c. In the latter, the sympathies of distant organs are manifested more slowly, and there is little or no fever, the pulse being small and moderately frequent, and there being neither thirst nor heat of skin. In fact, they appear to have a relation to each other, like the acute and chronic stages of other diseases. In both, the attempt at menstruation may be made each month, accompanied by shiverings, pain in the back and loins, weight at the lower part of the abdomen, aching down along the thighs, general lassitude and uneasiness, and sometimes pain in the thyroid gland. These symptoms, after lasting a day or two, pass away without any menstrual secretion, and are repeated each succeeding month. But the effects of this abortive effort are not so temporary; severe headaches occur occasionally, sometimes with intolerance of light and sound; the patient complains of throbbing and a sense of fulness in the head; pain is felt in the side; the stomach and bowels become irregular in their functions, the countenance pale, and the strength much reduced. Paroxysms of dyspnœa and hysteria come on, and the patient has the appearance of confirmed ill-health.[3] I have already said, that these symptoms differ somewhat in persons of opposite constitution, though the amount of suffering may be equal; and I repeat, that all

[1] Dewees mentions four conditions under which the menses are tardy in appearing. 1. When there is little or no development of the genital organs. 2. When it takes place very slowly. 3. When it is interrupted by a chronic affection of another part. 4. When perfect development has taken place, and yet the menses are absent. (See Dewees' Midwifery.)

[2] Siebold divides this kind of amenorrhœa into two classes—those which arise from an excessive exaltation of vitality in persons of irritable and rigid fibres, and those occasioned by the opposite condition of defective vitality and irritability, in individuals of lax fibre. The treatment varies accordingly—antiphlogistics are recommended in the former and stimulants in the latter. (Frauenzimmerkrankheiten, &c.)

[3] See the chapter on "the constitutional effects of disorders of menstruation."

these symptoms may present themselves when an obstruction to the escape of the catamenia exists.

Cases are occasionally met with, where this variety of amenorrhœa has existed for several years, without the usual ill effects, but these patients are liable to sudden and severe attacks in other organs. *Nauche* records two such cases where the patients died suddenly of disease in the head. Excessive discharges of another kind also confer a temporary immunity from the immediate consequences of amenorrhœa.

I have repeatedly examined the uterus of patients labouring under amenorrhœa: the cervix has generally appeared small and more pointed than usual during the interval, but in all these cases a small-sized bougie could be introduced into the cavity, without pain or difficulty. During the menstrual period, an enlargement of the cervix takes place, varying in amount in different individuals.

"The *causes* (says Dr. Locock) of this condition are generally to be found in the previous habits of the patient; for it is most frequently met with in those who have led sedentary and indolent lives, who have indulged in luxurious and gross diet, and been accustomed to hot rooms, soft beds, and too much sleep."[1]

Pathology. Various explanations have been attempted of the proximate cause of this disease, but they have all the appearance of being the consequences of the theoretic views of their respective authors, rather than the result of patient observation. Some have attributed it to a torpor of the secerning vessels; others, to a spasm of their extremities, and a third party to excessive "engorgement."[2] The question is very difficult, if not impossible, to decide in the present state of our knowledge.

Diagnosis. The only point for our decision is, whether the case be one of simple amenorrhœa, not arising from congenital malformation nor complicated with other diseases. An examination, if there be periodical exacerbations, will detect any obstruction; and if the health be affected, and the monthly return marked, with no local impediment, we shall have reason to assume the presence of the principal organs, and may fairly conclude the complaint to be the one we are now considering. The complication most frequent is that of uterine leucorrhœa, and this will form the next subject for our investigation.

The *consequences* of amenorrhœa are a deterioration of the general health, chlorosis, and, for the time being, sterility.

[1] Cyclopedia of Pract. Med. art. Amenorrhœa, vol. i.

[2] Undoubtedly there is considerable congestion at the period of this menstrual effort, and in some cases it may be excessive, and so be an impediment to the proper secretive action, but that it is ordinarily so (as stated by Dr. Balbirnie on M. Lisfranc's authority,) I cannot believe, for almost all the evidence I possess would tend to prove the contrary.

See also Traité theorique et pratique sur les alterations organiques simples et cancereuses de la Matrice, &c. par F. Duparcque, M. D. p. 21. et seq.

Treatment. This will depend a good deal upon the constitution of the patient, and will vary according as it may be administered *during an interval* or *at a menstrual period.* If the patient be of a full habit, with a florid complexion, &c. and we find the symptoms indicating uterine effort present; venesection will very often afford relief. Perhaps cupping the loins or applying leeches to the vulva is a still better mode of abstracting blood. This must be followed during the *interval* by a diminution in the quantity and quality of food, with a total abstinence from stimulants. As much exercise as possible should be taken, provided the patient do not over fatigue herself. A brisk purgation may occasionally be necessary; and moderate doses of aloes in combination with rhubarb and assafetida, two or three times a week, have been found very useful.

By these or similar means the plethora of the system will be relieved, and a better state of health induced. On the approach of the next menstrual epoch, the feet should be put into warm water every evening, or the hip bath used occasionally. In many cases the menstrual discharge will be established without further trouble.

When, however, the patient is of a weak, nervous, or leucophlegmatic constitution, the object will be to strengthen the system by a well-arranged nutritious diet and a moderate use of wine. Exercise should be taken, but in the least fatiguing mode.

Preparations of iron (such as Griffith's mixture) are very useful, or chalybeate mineral waters. If the suffering at the monthly period be great, narcotics or antispasmodics may be given—but as sparingly as possible.

Although this general plan of treatment very often succeeds, still there is a larger class with whom it does nothing more than improve the general health, without causing any development of the uterine function. With these it becomes necessary to have recourse to those remedies which have been supposed to possess a specific power over the womb. By the older writers a great number of such agents are mentioned, but, according to modern experience, the list is by no means a long one. Warm hip baths—dry cupping (Nauche)—leeches to the vulva (Nauche; Siebold, &c.)—Electricity (Mayduyt; Andrieux; Nauche)—or Galvanism (Capuron; Nauche; Siebold; Alberti; Mojon), directed across the region of the uterus—frictions to the loins, with stimulating liniments, have all been more or less praised, and to a certain extent deservedly. Formerly the crural circulation was arrested by pressure for the purpose of causing an accumulation of blood in the uterus, and consequent menstruation.

Local irritation of the uterus, by the introduction of bougies or by the injection of stimulating lotions into the uterus, has been advised. Lavagna and Melier recommend a lotion composed of a few drops of liq. ammoniæ in an ounce or two of milk; this, it is said, has brought on menstruation, but, in truth, it is a very

hazardous proceeding, and likely to excite inflammation of the organ. Dr. Blundell speaks favourably of it as a vaginal injection merely.

The three medicinal substances, about whose power of acting upon the uterus there appears to be the least doubt, are—Iodine—the Ergot—and Strychnine.

Iodine has been extensively tried, and in many cases successfully;[1] but it may be questioned whether the continued trial has fulfilled the expectations of the physician[2] who introduced it into practice. The best form in which it can be given is that of tincture in combination with the hydriodate of potass—from 10 to 20 or 30 drops may be given two, three, or four times a day.

That Ergot of Rye will increase, if not originate, uterine contraction, is known to all, and also that it will restrain inordinate discharges from the womb; we should, however, scarcely expect it to be useful in exciting the menstrual secretion, and it is difficult to determine upon what principle it does so. As to the fact, we have the evidence of Dewees,[3] who recommends its use; of Dr. Locock,[4] who has tried it with success; of MM. Roche,[5] Nauche,[6] and Pauly.[7] In my hands it has failed; but the trials I have made have not been sufficiently numerous to decide the question of its utility. It may be given in doses of 5 or 10 grains of the powder two or three times a day. It will be rendered more palatable and less likely to disturb the stomach by being boiled in a little milk. Nauche advises its combination with rhubarb or some mild purgative. During its exhibition, the patient should be carefully watched, and the medicine be suspended, if pain be excited in the uterus.

Strychnine was, I believe, first introduced to the notice of the profession in this country, as a remedy in amenorrhœa, by my friend Dr. Bardsley, of Manchester.[8] Out of twelve cases related in his work, ten were cured and two relieved, and to this number I can add two cases in which the cure was complete and permanent.

It is fair to add, that Dr. Bardsley's cases were of *suppressed* menstruation; but there is no reason for doubting the equal efficacy of the remedy in simple amenorrhœa.

The dose of the medicine varies from one tenth to one fourth of a grain, two, three, or four times a day, and this quantity may be slightly increased after a time.

The medicine should be suspended, at least for some days, if it give rise to headach or twitching of the muscles.

Nauche has employed it successfully in doses of from one fourth of a grain to one grain three times a day.

[1] Dict. de Med. and de Chir. Prat. p. 120, art. Iode.
[2] Dr. Coindet, of Geneva.
[3] See Dewees' Midwifery, chapter on Amenorrhœa.
[4] Cyclop. of Pract. Medicine, vol. i. p. 70.
[5] Nouv. Dict. de Med. and Chir. art. Ergot.
[6] Nauche, Maladies Propres aux Femmes, vol. 2.
[7] See also Lisfranc. p. 183, note.
[8] Hospital Reports, p. 51.

The *modus operandi* of it is difficult to explain. Dr. Bardsley conceives it to act by stimulating the vessels of the uterus and improving the tone and vigour of the system.

M. Carron du Villards has used the cyanuret of gold successfully, beginning before the expected menstrual *period*. The mixture he prescribes consists of 3 grains of the cyanuret to 8 ounces of alcoholised water: a tea-spoonful may be given twice a day, gradually increasing the dose.

Other remedies act upon the sympathies of the uterus by stimulating the neighbouring organs—the rectum and bladder; as, for example, Aloes, Melampodium, &c. or Cantharides (Nauche), Turpentine, Savine, and some of the Balsams. These have all been found useful, and may be employed by the practitioner according to the circumstances of the case. Dr. Locock[1] speaks highly of a combination of myrrh, aloes, sulphate of iron, and essential oil of savine.

Dr. Loudon[2] derived benefit from applying leeches to the breasts, and a recent writer in one of the periodicals, from the application of blisters. The irritation so excited seems to exert a sympathetic influence over the womb. Sir James Murray[3] has found similar effects follow the application of exhausting glasses to the breasts. Siebold[3] recommends warm fomentations to these parts.

M. Rostan says he has succeeded by applying leeches to the os tincæ. M. West de Soult has published some facts in favour of the efficacy of aconite.

Dr. Hannay, of Glasgow,[4] succeeded in developing the catamenia by the exhibition of the ammoniated tincture of guiacum, but failed entirely when he had recourse to Doctor Loudon's plan.

Dr. Shönlein, of Wurtzburg, speaks of an enema containing 12 grains of aloes, administered about the time when the menses ought to appear, as the most certain kind of emmenagogue.[5]

c. Amenorrhœa with vicarious leucorrhœa. This variety differs most essentially from the preceding. In them the uterine system was quiescent, the uterine function altogether absent; in this, on the contrary, the uterus is often in a state of full and regular action. It is true that, in the ordinary sense, the case is one of amenorrhœa, because the *red* menstrual discharge does not appear, but a more accurate investigation will show that the uterus is secreting a *white* fluid. The womb is not in fault, but probably the "*materiel*" upon which it is operating; as the subjects of this form are generally in delicate health. On this account, the establishment of menstruation is looked for with great anxiety, as a kind of crisis when their future good or bad health will be determined. Upon enquiry, we

[1] Cycl. of Pract. Med. vol. i. p. 69.
[2] Edinburgh Medical and Surgical Journal, vol. xxxviii. p. 61.
[3] Observations on the Med. and Surg. Agency of the Air-pump, by Sir James Murray, M. D. p. 40.
[4] Frauenzimmerkrankheiten, vol. i.
[5] Dublin Journal, Sept. 1836, p. 149.

shall be told that the *symptoms* usually accompanying menstruation have appeared, and perhaps have recurred several times, with great regularity. The patient has had periodical pain in the back and loins—languor, weariness, weight at the lower part of the abdomen, &c., and yet you are given to understand that she has not been "unwell," "regular," or "as she ought to have been." Now, as great mischief may be done by treating these cases as simple amenorrhœa, a more minute investigation must be made, and we shall find that at each of these periodical attacks there was a white discharge from the vagina.

This fact is occasionally mentioned by the older writers, and by some of the more modern,[1] but its importance seems scarcely to have been duly estimated. In truth, it decides for us the question of congenital malformation, as well as proves that there is no torpor of the womb—and all that remains for us to attempt, is the conversion of the white into a red secretion.

This vicarious uterine leucorrhœa, I have already stated, occurs at the commencement of menstruation, chiefly in delicate young females; it may give place to the red discharge at the second or third period, or it may continue to supply its place for six months or a year. The period of its duration will greatly depend upon the success of our efforts to improve the health.

It may likewise return for one or two periods after proper menstruation has taken place, or it may alternate with it.

The white discharge lasts three or four days in most cases, and the amount is probably equal to the early secretion of the catamenia; but with some patients there is no distinct interval, more or less of the discharge continuing from one period to another, diminishing after, and increasing again before, each period.

In these cases, it is probable that the leucorrhœa is not merely a vicarious secretion, but that there is, in addition, a disordered state of the lining membrane of the uterus.

When the discharge subsides after three or four days, and the integrity of the interval is preserved, the constitution is scarcely, if at all, affected;—the patient may be weakly, and incapable of great exertion; and the organic functions generally may be somewhat *below par*, but still her health is probably not worse than for some time previously. This state of neither good nor bad health, may continue for a long time; and it will seldom be found that any

[1] Dr. Friend speaks of "lymph-like menses." Astruc distinctly states, that leucorrhœa takes the place of the menses; and Nauche says that this is a salutary effort of nature, and to be respected; and he mentions, that in 1824, he was called to see a young lady, aged 24, of a strong constitution, who had never menstruated. Instead of the catamenia, there was secreted, every month, a quantity of white opaque mucous, which appeared to answer the purpose of menstruation very well. See Mal. Propres aux Femmes, vol. ii. p. 646.

Dewees also refers to this class as instances of slow development or vicarious secretion. See also Joerg's Krankheiten des Weibes, p. 136.

decided change for the better takes place until the uterine function is perfected.

When the uterine leucorrhœa, however, is persistent throughout the interval, the local symptoms are more prominent, and the constitutional suffering much greater: there is pain in the back, aching and weakness across the loins, occasional pain in the side or chest, frequent headaches, loss of appetite, irregularity of the bowels; in short, the symptoms, more or less complete, of uterine leucorrhœa,[1] and requiring the treatment adapted to that disorder.

The proximate cause of this variety of amenorrhœa will probably be found to exist in the condition of the circulating fluid, and not in the secreting apparatus;—the addition of a low degree of inflammation of the lining membrane of the uterus will account for the persistence of the "whites" throughout the *interval.*

Diagnosis. The presence of the leucorrhœa will elucidate the nature of the amenorrhœa, and its periodicity will point out its uterine origin.

Treatment. It is clear, that in this variety our attention must be directed to the improvement of the general health, rather than to the uterine system. For this purpose, the diet of the patient should be so managed as to give the *maximum* of nutrition with the *minimum* of digestive labour. As the stomach is delicate, we must be cautious not to overload it. Broths and jellies may be given, or solid food, if preferred. It is much better to give food frequently, and in small quantities, than to allow full meals at distant intervals. Wine in moderate quantity may be permitted. As much exercise in the open air should be taken as is consistent with avoiding fatigue: and, in some cases, horse exercise has appeared the best mode. Occasional purgatives will be necessary; and those containing aloes answer remarkably well, from the local sympathetic irritation they excite. Dewees recommends the tinct. cantharidis, which he gives in doses of 30 drops three times a day. Tonics, especially those from the mineral kingdom, are very useful, and of all that I have tried, I have found the different preparations of iron the most beneficial.

Pediluvia should be ordered every night, just before the return of a menstrual period.

The judicious application of the treatment just detailed will seldom fail in improving the general health; and that is certain to be followed by the establishment of normal menstruation.

2. *Amenorrhœa suppressa—suppressio mensium—suppressed menstruation.*

We next come to consider those cases where the flow of the catamenia, having been for a longer or shorter time established, has been arrested. This may happen at any period of menstrual life, and it may take place suddenly or very gradually, or, in other words, it may be *acute or chronic.*

[1] See the chapter on Uterine Leucorrhœa.

a. Acute suppression of the menses may occur from cold caught during menstruation, in consequence of wet feet,[1] from a bodily or mental shock[2] received either just previous to, or during the menstrual flow—from mental distress or the depressing passions—from sexual intercourse during the flow of the catamenia—from fever[3] or any severe disease setting in at that period.

Symptoms. The amount of disturbance consequent upon a sudden suppression of the menses, varies very much. In some cases, no ill effect follows for some time, but most frequently a degree of fever arises, with headach, hot skin, quick pulse, thirst, nausea, &c., or the patient may be attacked by local inflammation, either of the brain, lungs, intestinal canal, or of the uterus itself. Occasionally, instead of inflammation, the womb is attacked by neuralgic pains of considerable severity.

But the most puzzling of all these sequelæ is a species of hysteria, simulating inflammation, but without the usual *accord* of symptoms (some one or other of the more important being absent), and changing from one organ to another so soon as our remedies are brought to bear upon it. I have seen the head, lungs, and stomach successively thus affected, and suddenly and apparently spontaneously relieved. The patient is very liable to attacks of fainting.

Capuron mentions that attacks of apoplexy and paralysis sometimes result from sudden suppression of the menses.

Other authors state that aphonia, derangements of vision, and cutaneous disorders follow from the same cause.

There are two circumstances, however, which may occur, and either of which will considerably mitigate the severity of these secondary attacks: I refer to vicarious menstruation, as it is called, by which the temporary plethora of the system is relieved, but without any evidence of a return to a healthy state on the part of the womb—and to uterine leucorrhœa, which appears to afford relief also, and more naturally, inasmuch as the uterus being in action, even though the product of that action be faulty, gives more hope of the re-establishment of the healthy function, than when that organ is perfectly quiescent, and as it were paralysed.

It sometimes happens, when the patient's health has suffered much in consequence of the suppression, and when the white discharge has appeared instead of the menses, that the leucorrhœa returns regularly for successive periods, thus increasing the delicacy

[1] It has been stated on good authority, that the bathing women at the seaside, do not refrain from following their occupation during menstruation, and that, as a general rule, the menses are not affected by it.

[2] I have known this to occur upon a very extensive scale. Almost all the women who are sent up to the Richmond Penitentiary (near this city), after being tried at the Recorder's Court, labour under suppression of the menses, in consequence of the mental agitation and distress they have undergone.

[3] When fever commences during the interval, it does not follow that the next period shall not be attended with the proper secretion.

which was its primary cause, and offering an obstacle to our efforts at improving the general health.

It need scarcely be stated, that a return of the menses, either immediately or at the next monthly period, is the best remedy for the secondary symptoms, although in some cases a delicacy will remain for a time.

Sudden suppression of the menses must be regarded as a much more serious disorder than any other form of amenorrhœa on account of the secondary attacks, some of which have occasionally terminated fatally.

Diagnosis. There can be no difficulty in ascertaining the fact of the suppression from the patient's account, but it may be a matter of some difficulty, as assuredly it is of great importance, to distinguish between the local inflammatory and hysterical attacks which supervene on the primary affection. This will be best done by estimating carefully the accordance of the symptoms or their inequality. The local and general symptoms will be found to correspond, or nearly so, with each other, and with the state of the organic functions, when the disease is inflammatory; but when it is hysterical, although the pain and local distress may equal that arising from inflammation, the pulse will be found little affected, and the functions of the part scarcely, if at all, impaired. Notwithstanding all our efforts, however, from the irregularity of some inflammatory attacks, there will be cases about which we may be doubtful; and when this uncertainty exists, we shall do wisely to treat them, at least at first, as inflammatory.

Treatment.—The acute form, according to Capuron, is much more easily cured than the chronic. The first *indication* is, if possible, to recall the discharge, and for this purpose the patient should take a hip bath, or put the feet into warm water, and swallow some hot drink, as a bowl of whey, thin gruel, &c.; and some mild diaphoretic medicine may also be useful. Gentle purgatives will be beneficial. I have myself succeeded several times with spirits of turpentine. But it must be remembered, that if we induce purging to any extent, we shall defeat our object, as copious discharges of any kind[1] are apt to supersede menstruation, and in these cases, by relieving the constitution, would prevent any effort on the part of the uterus.

Should our attempts to recall the discharge be unavailing, we must wait for the next period for this purpose, and in the mean time afford all the relief in our power to the secondary attacks. If there be local inflammations, or if fever arise, they must be treated according to the method usually recommended for such diseases, irrespective altogether of their cause.

The state of general plethora, which sometimes results from arrested menstruation, independent of local disease, will be removed

[1] It is from the experience of this effect, that females are so unwilling to be bled, or to take strong medicine during the time they are menstruating.

by loss of blood. It may be a question whether small and repeated bleedings are not preferable to the loss of a larger quantity at one time. If adopted early, it may prevent the local disorders to which I have referred, as well as relieve the constitution generally.

The hysterical affection of different organs will be combated most successfully by counter-irritation, antispasmodics, or what are called nervous medicines, such as assafetida, musk, castor, camphor, &c. &c. and by aloetic purgatives. Dewees recommends the tincture or powder of guiacum, as tending to reproduce the catamenia.

Upon the approach of the next period, great attention should be paid to the patient, and every means put in practice which may be likely to facilitate the normal secretion. The bowels should be kept free—the surface comfortably warm, and the hip bath or pediluvium used alternate nights. The strength, if necessary, must be supported by a generous but not stimulating diet. If at the proper time menstruation be established, our anxiety will be at an end, but if merely a white discharge be thrown off, we must again, during the interval, put into action all the means before recommended (page 53) in cases where uterine leucorrhœa is vicarious of the menses.

If the white discharge persist during the interval, the case must then be treated simply as uterine leucorrhœa. (*See the chapter on Uterine Leucorrhœa.*) But if no discharge at all—neither red nor white—appear, and if the general condition of the patient and her freedom from local disease permit, we may have recourse to some of these specific remedies which were mentioned when considering the treatment of simple amenorrhœa.

b. Chronic suppression of the menses may be the issue of an acute attack, or it may arise from the gradual supervention of delicate health, from disease of the ovaries, uterus, or other parts; it may also be the termination of the menstrual function, either before or at the usual age (*Dewees*). The quantity of the secretion may diminish, and the time become irregular and uncertain, until at length the uterus altogether ceases to act. This is one way in which the disease comes on; but we find more frequently, I think, that the menses are supplanted by the white discharge. The menses diminish in quantity, and become of a paler colour and with shorter intervals, and then a *period* arrives during which the patient finds the excreted fluid perfectly colourless—the next period again being marked by the coloured discharge. Thus the patient may go on alternating, with a gradual but steady diminution in the quantity and colour, until the leucorrhœa becomes permanently established (*Astruc*).

As to the *symptoms* to which this chronic suppression gives rise—when it is merely the subsidence of an acute attack, we shall find a pain in the head, side and back, deficient appetite, and a failure of the vital powers, ending in a confirmed deterioration of

health, most favourable to the incursion of some of the fatal organic diseases peculiar to the climate.

When the menses are superseded by leucorrhœa, the symptoms of that disorder will be present.

If the menses neither occur during suckling nor for some time afterwards, and the health appears to suffer, we should bear in mind, that in consequence of inflammation following the delivery, some portion of the canal in the cervix, the os uteri, or the vagina may be obstructed or obliterated, and an examination should always be instituted to ascertain the state of the parts. The introduction of the finger will satisfy us as to the vagina, but the permeability of the canal through the cervix can only be determined by passing a moderate sized bougie through the os uteri.

Diagnosis.—The most important distinction we have to make is between this *chronic suppression* and *pregnancy*. If the patient be in a situation to have children *creditably*, she will undoubtedly mistake the suppression for the first symptoms of pregnancy, and it will sometimes be rather doubtful even after a careful examination.

The arrest of menstruation occasioned by conception, is generally unaccompanied by other unpleasant symptoms, and is shortly followed by the morning sickness and an alteration in the volume of the breasts, and in the colour and sebaceous glands of the areolæ.[1] These, with other circumstances peculiar to the case itself, are the principal grounds upon which our diagnosis must be founded.

Treatment.—Whenever the suppression is consequent upon disease of the genital system or of other parts, our attention must be directed to such disease, and we shall generally find that on the patient's recovery, the catamenia will return. Where the menses have been superseded by "whites," the proper treatment of the uterine leucorrhœa will almost always be followed by the restoration of the uterine function.

When the suppression is uncomplicated, it may be advisable to try the remedies recommended for simple amenorrhœa. But additional caution will be necessary, with a careful estimate of the general condition of the patient, and an internal examination previously, to ascertain that there be no organic disease of the womb, and also the probability of the case being one of premature but normal cessation of the menses.

I have now described the principal varieties of Amenorrhœa, with the *causes and symptoms* most usually observed: I have hitherto deferred mentioning some occasional causes which I have found to produce the same effects, as well as some unusual symptoms, because they have occurred to me too seldom to justify

[1] I feel great pleasure in referring my readers to the minute and accurate work of my friend Doctor Montgomery, "On the Signs of Pregnancy," as affording them more information on this subject than any other with which I am acquainted.

any general inferences, and also in order that there might be less difficulty in clearly remembering the ordinary cases. I have several times seen hemorrhage during childbirth, followed by amenorrhœa (the patient *not* giving suck) for many months. A similar consequence has resulted from puerperal fever, especially from that form in which the substance of the uterus is chiefly affected.

In two cases of fibrous tumour of the fundus uteri under my care, though apparently unconnected with the lining membrane, amenorrhœa gradually supervened, though with less distressing symptoms than usual.

Among the less frequent *symptoms* may be enumerated, effusion into the peritoneal cavity, and still more rarely into the pleura. The absorption of the fluid takes place rapidly when the menses reappear.

The action of the heart is also affected by suppression of the menses, especially if sudden. I am indebted to my friend, Dr. Green, for an opportunity of examining a case (and he related to me several others) where a distinct "bruit de soufflet" existed, without other evidence of heart disease, and which disappeared spontaneously upon the reappearance of the catamenia.

CHAPTER III.

VICARIOUS MENSTRUATION.

It has already been stated, that any great drain upon the constitution, such, for instance, as a large bleeding or catharsis taking place about the monthly period, may supplant the menstrual discharge, and that without apparent injury. Now, this principle of one evacuation supplying the place of another and a healthy one, *pro tempore*, we see occasionally exemplified in a natural manner. In many cases, especially of *suppressed* menstruation, where the monthly effort or menstrual *molimen* occurs, without the uterine secretion, and where the system generally is suffering from the consequent plethora or irregular distribution of blood, an attempt is made by the natural powers to afford relief by a discharge of blood from some other part, generally one which is already enfeebled.

This is called *vicarious menstruation.* It is recorded to have taken place from the nostrils, eyes, ears, gums, lungs, stomach, arms, bladder, nipples, the ends of the fingers and toes, from different joints, from the axilla, from the stump of an amputated limb, from ulcers, from varicose tumours, and from the surface of the skin generally.[1]

[1] See Locock, Cycl. of Pract. Med. vol. i. p. 71. Astruc, vol. i. p. 158. Capuron Mal. des Femmes, vol. iii. p. 120. Haller's Physiology; and Siebold's Frauenzimmerkrankheiten, vol. i. p. 339.

Dr. Blundell (Diseases of Women, p. 228,) mentions that a case occurred

The more extensive mucous membranes (pulmonary and intestinal) are, however, the more ordinary seats of the discharge, Siebold mentions that he knew an instance of excessive salivation supplying the place of the menses, and I saw a similar case at the Wellesley Dispensary about three years ago.

In general, the vicarious discharge consists of blood solely; it comes on suddenly, and continues at intervals for some days, unless the quantity be very great, in which case the first hemorrhage may be the only one. The local and constitutional distress under which the patient previously laboured will be found to disappear in most cases, but the health will not be established during the interval.

This irregular evacuation may take place at one period only, succeeded the next month by the catamenia, or it may occupy several successive monthly returns, preceded for a day or two each time by the usual symptoms of menstruation. Although an organ thus affected may exhibit the appearance of formidable disease (as in hæmatemesis or hæmoptysis), yet in general it is not attended with much functional disturbance, nor followed by more serious consequences than those resulting from the loss of blood.

An attack resembling vicarious menstruation sometimes occurs about the period of the "cessation of the menses," and seems to act beneficially as a derivative, preventing serious local congestions.

Causes. The immediate cause is, of course, the sudden suppression of an accustomed discharge, and the consequent distress; but why such an extraordinary effort of nature should be made to avoid the evil consequences of the shock to the system, it is impos-

in St. Thomas's Hospital (under his own notice), "in which there was, every three weeks, for at least three times in succession, a discharge from a sore on the hand, in place of a discharge from the uterus, observing the same period to which the patient had been accustomed. In this case, it is worthy of remark, that there was some two or three hours before the commencement of the eruption, a throb in the course of the radial and ulnar arteries."

Dr. Law has kindly furnished me with the particulars of a case of this kind, of great interest, which came under his care in Sir P. Dun's Hospital. The patient, Mary Murphy, æt. 21, had been in bad health, and subject to distressing headaches previous to her admission into the hospital. During her stay she missed a menstrual period, and was shortly after attacked by hemorrhage from both ears, which was repeated at intervals of from three to five nights, each attack lasting some hours. Very often from 15 to 20 ounces of blood were collected, which did not coagulate, neither did blood taken from the arm. By suitable treatment the system was strengthened, and the intervals between the bleedings increased; but the discharge, though thus modified, still persisted, and she left the hospital. After her departure, she was attacked with vomiting of blood, to a certain extent superseding the evacuation from the ears, which only occurred once or twice a month. She returned to hospital in consequence of this new symptom, and continued in the same state for some time, with some effort at menstruation; but at last the sanguineous discharge was supplanted by severe diarrhœa, which, having relieved the other complaints, was itself cured by opium. The quantity of blood lost must have been enormous, and it is not a little remarkable, that none of the sequelæ of severe hemorrhage occurred.

sible to explain. The locality of the vicarious discharge is often determined by the previous delicacy of an organ or tissue.

Diagnosis. At the first outbreak, this curious phenomenon may occasion both alarm and difficulty, occurring (as I have said it does) in females of weak constitution and in delicate organs.

Our judgment of the nature of the attack must be formed upon the simultaneous concurrence of the amenorrhœa, the menstrual effort, and the vicarious evacuation. The diagnosis will be rendered quite certain by the absence of those signs and symptoms, and that constitutional disturbance which would characterise the local affection, were it primary and not vicarious.

Prognosis. I have not met with any cases on record of a fatal termination to such an attack, nor am I aware that the organ or tissue so affected is more than usually liable to disease subsequently. I have seen several cases where the organic functions continued with little or no impediment after the cessation of the discharge.

In most of the cases related by authors, the uterus has sooner or later taken on its proper action, and superseded the vicarious drain.

It would seem, therefore, that but little fear need be entertained as to the effect of the secondary attack, or as to the ultimate resumption of its proper function by the uterus.

At the same time, great care and watchfulness will be absolutely requisite in each case when the discharge proceeds from the more important and more delicate organs.

Treatment. If the attack have commenced without previous warning, little or nothing can be done except to watch the patient. If the discharge be from the lungs, opium may be given, either alone or in combination with the mineral acids, or the acetate of lead, for the purpose of moderating the evacuation. If from the stomach, opium with the subnitrate of bismuth may be given, as it has been found useful.

If, from its previous occurrence, or from any other circumstance, there are grounds for expecting an attack of this kind, means should be used at once to relieve the system in a less questionable manner, and to stimulate the uterus into activity at the same time, if possible. Cupping over the sacrum or leeches to the vulva or anus will sometimes answer *both* objects perfectly, and, for this reason, are preferable to bleeding in the arm.

Stimulating enemata may also be useful, or an injection of aloes, as recommended by Prof. Schönlein.

During the interval, the patient may be treated much in the way recommended in simple amenorrhœa. Tonics, vegetable or mineral, and particularly the preparations of iron, should be given. If we are not successful by these means, and there are no counter-indications derived from the constitution of the patient, or the character and locality of the secondary affection, some of those remedies which act more directly upon the uterine system may be given.[1]

[1] See pages 54 and 55.

CHAPTER IV.

DYSMENORRHŒA, PAINFUL OR DIFFICULT MENSTRUATION.

In considering the first menstrual disorder (Amenorrhœa), we found it to consist almost solely in a deficiency of secretive power. In Dysmenorrhœa, we have, *in addition*, severe pain attendant on the *secretion* or *emission* of the discharge.[1] The distinctive mark, then, must be the pain, and not the quantity of the catamenia, which may either be scanty, profuse, or about the usual amount.

Dysmenorrhœa may occur at any menstrual period, and it is very rarely found to be confined merely to one or two periods. In some cases, it may be traced back to the very commencement of menstruation, and it occasionally continues throughout the whole of menstrual life. The amount of the pain varies very much; it may be moderate, and lasting but a few hours at each time, or it may be so severe as to cause fainting, and, by the repeated shock to the constitution, render the patient a permanent invalid.

The character of the pain and the accompanying symptoms vary according to the constitution of the individual. On this ground, the disorder may be divided into two species—the *neuralgic* and the *inflammatory*. A third may be added, where the difficulty is *mechanical*, and arises from some impediment in the passage. Examples of this kind are exceedingly rare.

1. *Neuralgic Dysmenorrhœa.* This variety may attack females at any age, but it is more frequent after their 30th year than before. I have observed it more commonly in unmarried women, and in married women who have not borne children, than in others. It is almost confined to those of a nervous temperament, and of a thin, delicate habit of body. The monthly paroxysms present all the characteristics of neuralgia. For a day or so previously there is a sense of general uneasiness, a deep seated feeling of cold, or, as a patient described it to me, the very bones of the extremities feel icy

[1] I am aware that this statement does not agree with many writers who define amenorrhœa to be a difficulty or deficiency of secretion, and dysmenorrhœa a difficulty of emission only. But a little attention to the cases of dysmenorrhœa will show, I am persuaded, that in one half the discharge is less than the quantity secreted in health.

In the Nouv. Dict. de Méd. et de Chir. Prat. art. Dysmenorrhèe, M. Roche speaks of idiopathic and symptomatic dysmenorrhœa—the former a neuralgia, and the latter taking its character from the originating disease, whatever that may be.

Boivin and Dugès (p. 412, et seq.) seem to regard dysmenorrhœa as generally inflammatory, marked by the symptoms described in the text. They suppose, however, that it may be at the commencement "a spasmodic state of the organ."

Dr. Balbirnie (Organic Diseases of the Womb, pp. 79 and 80,) speaks vaguely of dysmenorrhœa, as the result of engorgement, and of "stormy menstruation." This is the arrangement of M. Lisfranc.

Dr. Blundell describes but one species of dysmenorrhœa in which there is "scarcely any febrile excitement."

cold. Headach may precede the flow of the menses or succeed to it, and I have sometimes seen the headach alternate regularly with the pain in the back. The latter pain commences in the region of the sacrum, and extends round to the lower part of the abdomen and down the thighs. In some cases, it is constant without any remission, in others it occurs in paroxysms, with intervals of ease. The amount of suffering varies much; it is greater, I think, in this than in the next variety. The period which elapses between the commencement of the pain and the flow of the catamenia is very uncertain; it may be but a few hours, or it may be a day or two. A sensation of forcing or bearing down is occasionally present, and adds to the distress of the patient.

After a longer or shorter time has passed, the menses appear, sometimes slowly and scantily, at others in slight gushes. The quantity differs a good deal not only in different persons, but in the same person at different times. The discharge itself may be uncharged, but not unfrequently we find it paler than usual, or mixed with small clots. There is in some cases a peculiar membrane secreted, which was first described by Morgagni,[1] and since by Denman,[2] Burns,[3] &c. &c.

It is composed of plastic lymph (such as we see secreted by the mucous membrane of the trachea in croup) thrown off by the lining membrane of the uterus, and taking generally the form of the cavity of that organ, although it *may* be discharged in shreds. When the figure of the uterine cavity is preserved, it may give, and has given, rise to suspicions of pregnancy. If the little bag be slit open, a small quantity of fluid will be found within it. Its expulsion is accompanied by violent forcing, resembling labour pains. By some patients it may be discharged at several periods successively, by others only occasionally.

Denman supposed this membrane to be secreted every menstrual period in cases of dysmenorrhœa, but that in many cases it passed away without being noticed. Subsequent observation, however, has not confirmed this view. He also says, that he never knew a female conceive in whom this membrane was secreted, so that he considered it as a mark of sterility.

Dr. Blundell[4] does not agree with Denman; he says, conception is by no means impossible, though it does not generally take place; and this opinion I believe to be correct.

The cervix uteri undergoes the usual change. At the menstrual period, it becomes swollen and less dense, with an increase of heat. The os uteri is more open than during an interval.

The eruption of the menses is not immediately followed by the relief of the pain as in the inflammatory dysmenorrhœa, but it sub-

[1] Morgagni, Epistola 48: art. 11.
[2] Denman's Midwifery, last edit. p. 106.
[3] Burns' Midwifery, last edit. p. 63.
[4] Diseases of Women, p. 259.

sides gradually, alternating sometimes with neuralgic pains in other parts, as in the face, teeth, &c.

During the attack, the pulse is scarcely accelerated, but somewhat reduced in strength. There is no feverishness, and subsequently the patient seems less weakened than might have been expected.

Each attack may last from 24 hours to four or five days, after which the patient (unless afflicted with headach) speedily recovers so as to resume her usual routine of employment. Very slight disturbance of other organic functions is observed; the bowels are regular, and the appetite very little affected.

I have described the phenomena of this form of the disorder as we ordinarily see them, but I should be guilty of a great omission, if I did not state that I have seen cases where the patient's health, during the interval, was much more seriously affected. Such were very liable to returns of the severe headach or pain in the back, so intense and so much aggravated by standing or walking, that they were obliged to lie on the sofa or to remain in bed almost constantly; and, as the natural consequence of suffering and confinement, the functions of the stomach and bowels became impaired, and the general health seriously deteriorated.

Pathology. From an attentive examination of these cases, I have been led to the conclusion, that the disease is most frequently of a simple neuralgic character. We have no evidence of any inflammatory process going on; the pulse is rather weaker, and scarcely, if at all quicker, the skin is cool, and the remaining functions undisturbed. In short, there is no proportion (as there is in inflammation generally) between the amount of local distress and constitutional suffering. The womb appears to be in a state of great irritability.

The above explanation, however, is not sufficient for those cases where the membrane is expelled. Probably Dr. Locock is right in supposing it the result of a degree of inflammation of the mucous membrane of a peculiar character. That it is met with in cases where the neuralgic character predominates, I know, but whether more frequently than in inflammatory dysmenorrhœa, I am not able to decide.

Causes. Cold, especially when taken during menstruation, or soon after miscarriage or delivery, will often induce a severe attack. Sudden shocks—mental emotions, &c. acting upon an irritable condition of the womb, have been known to give rise to it, and especially when the impression was produced at or about the menstrual period.

Diagnosis. The only mistake at all likely to be made, is confounding a dysmenorrhœal attack with abortion, on account of the paroxysms of pain and bearing down, which error becomes more probable, when the membrane I have already described is discharged entire. However, if the case be one of disordered menstruation, we shall find that the patient has been "regular" every month, perhaps that she has had a precisely similar attack the preceding

two or three months. This will, of course, be decisive. In addition, we may observe, that the discharge accompanying abortion is decidedly sanguineous and not menstruous, and that in quantity it ordinarily exceeds the catamenia very much. I have said that the menstruous sac contains nothing but fluid, and, of course, when opened no fœtus is discovered. Little stress, however, can be laid upon this, since it is well known that a fœtus of an early age is often dissolved in the liquor amnii. The external surfaces of the ovum and sac differ more than the internal; on the ovum we find more or less of the flocculi of the chorion, to which the outer surface of the *membrane*, however rough it may be, bears no resemblance.

Treatment. The *indications* are two fold—1st, to reduce the pain during the attack; and 2dly, by appropriate remedies to prevent a return. Our principal reliance for the former of these is upon sedatives. Opium may be given in grain doses every second hour, commencing with the first sensation of pain in the back, and continued until relief is obtained. I have repeatedly remarked, that an increase in the flow of the menses follows the relief of the pain. Camphor may be given alone (Dewees), or advantageously combined with the opium. If the opium should disturb the stomach, it may be given with great benefit in a clyster. If the head be affected by it, we may try the acetate or muriate of morphia, (Fabre, &c.), hyosciamus, conium, &c. &c. Massuyer of Strasburg, Cloquet, and Patin,[1] have all prescribed the acetate of ammonia, in moderate doses, with benefit. The ergot of rye has been recommended, and in one case I tried it: the first time it was taken it appeared to succeed, but the next it entirely failed. Dewees and Gooch gave it with success. The mode of administration is to give 5 grains three times a day, two or three days before the expected period.

During the *interval*, every effort should be made to strengthen the patient, and to lessen the general and local irritability. For this purpose the diet should be generous, with a fair proportion of wine, and exercise in the open air should be taken once or twice daily.

[1] Dr. Patin has published a number of cases in the *Mem. de la Societé d'Agriculture, Sciences et Arts, du departement de l'Aube*, No. 36, from which he draws the following conclusions:

1. That the *acetate of ammonia*, considered hitherto as a stimulant, is really a sedative.

2. The dose at which this effect is produced is from 40 to 70 drops, which may be repeated four times in the course of the day. In a less dose it produces no appreciable effect. No sensation is excited in the stomach. Slight giddiness, which lasts a few minutes, follows its administration.

3. This medicine is suitable to painful menstruation, (though with reserve, since it diminishes the discharge,) to excessive menstruation and to uterine hemorrhage. Lastly, Dr. Patin recommends it in all cases where there is over excitement of the female genital system. Mal. de l'Uterus, par M. Lisfranc, p. 194, *note*.

Chalybeate waters, or some of the medicinal preparations of iron, may be given. Dr. Locock speaks well of a mixture of equal parts of vin. ferri and spirit. æther. sulph. co. of which f℥ss to f℥i may be taken two or three times a day. Should the iron disagree, zinc in proper doses may be substituted. Dewees has tried the tinct. canthárid. with success, but the medicine upon which he appears to rely most confidently is the tinct. guaiaci in doses of f℥ss three times a day. The pain is sometimes increased the first period after its exhibition, he says, but ultimately it affords complete relief. Dr. Chapman, of Philadelphia, recommends seneca-root very highly.

A blister to the sacrum, or a caustic issue, is often of great use, and I have seen very much benefit derived from the daily use of vaginal injections of tepid or cold water during the interval. On the approach of the next period, warm water must be thrown up, and the patient should take a hip-bath or a pediluvium every night for two or three nights antecedent to the eruption.

This variety is often extremely obstinate, resisting all our plans of treatment for years; in other cases we may be more successful. The disease is rarely even the indirect cause of any fatal attack, and at the farthest, the patient may look for a cessasion of the suffering at the period of the cessation of the uterine function.

II. *Inflammatory Dysmenorrhœa.* This species differs very widely from the last described in the subjects of it, and in its symptoms. It occurs in females of a full habit and of a sanguine temperament, and generally at an earlier age. Unmarried women are very liable to it, and married women who have had children. Its first approach is generally sudden, and the result of cold or some violent constitutional disturbance. A slight degree frequently attends upon each return of the menses in young girls of a florid complexion and plethoric habit, even from the first menstrual period, but which disappears after marriage.

Very few precursory symptoms announce the attack; a degree of restlessness and feverishness, rigors and flushing, and generally headach, precede the severer symptoms. For some time before and after the catamenia appear, the suffering is very great, the patient complains of pain across the back, aching of the limbs, weariness, intolerance of light and sound, the face is flushed, the skin hot, and the pulse full, bounding, and quick, often upwards of 100. Cases not unfrequently occur, in which the fever runs so high that delirium supervenes for a short time.

Most generally the symptoms are mitigated when menstruation is fully established, and then by degrees all the disturbance subsides. The interval between the first incursion of the pain and the appearance of the catamenia varies a good deal; it is, I think, less than in the former species. The discharge itself is also more abundant, and may equally be accompanied by the membranous exudation.

During the menstrual interval, the health of the patient is but

little affected; she may be subject to headaches and pain in the side, but these are not constant, and in general not sufficient to interrupt the different functions of the body.

I have often found uterine leucorrhœa persistent during the interval in this species, and but rarely in the former.

The severe symptoms may recur with each menstrual discharge, although they are not so regular in intensity, as in the neuralgic form, and occasionally a period or two will pass with comparatively little suffering.

An internal examination will give evidence of a considerable congestion or "engorgement" of the uterus—the neck is much swollen and the heat of the parts increased. There is no tenderness on pressure externally.

Dewees[1] has noticed a remarkable symptom accompanying this variety, viz. pain and tumefaction of the breasts, adding another instance to those already recorded of the intimate sympathy between the uterus and mammary glands.

As to the effect of dysmenorrhœa upon another uterine function, that of conception, I may remark, that a severe attack of either species seems to preclude it entirely, but I have known many instances of patients labouring under a slight degree (of either kind) who were delivered of children within ten months after marriage, and in several of them the discharge, which was previously scanty, was observed to be increased in quantity immediately after marriage.

Pathology. From a comparison of the general and local symptoms with the information obtained by a vaginal examination, there can be no doubt that the uterus is in a state of congestion, approaching nearly to inflammation. The heat and swelling of the cervix, the rigors and flushing, the headach and quick pulse, at once indicate inflammatory action and point out its seat. Whether the congestion (as some French authors suppose) renders the secretion of the menses more tardy, as it appears to render it more painful, may perhaps be questioned.

The rapid subsidence of the severer symptoms would seem to show that the line which marks the separation of the most energetic secretive action from actual inflammation, had not been passed over.

Treatment. If the pathological view I have taken be correct, there can be no hesitation about the treatment, and it may be perhaps an argument for such view, that the remedies thus indicated are the most successful. If we are called to the patient during an attack, before menstruation has taken place, with all the feverish symptoms I have enumerated present, twelve or fourteen ounces of blood should be immediately taken from the arm, or as much by cupping from the loins; in many cases, the latter mode, or the application of leeches to the thighs, will be preferable. The bowels

[1] Midwifery, p. 152.

should be moved by saline pr gatives, and febrifuge medicines with cooling drinks may be given. These prompt measures will almost always relieve the patient; the only danger is lest they should altogether supersede menstruation, and our aim must be so to proportion the amount of the depletion and evacuations as to afford relief from the distress, without interfering with the function itself.

After the operation of the cathartic, it may be useful to give at bed-time a dose of calomel and opium.

Tartar emetic would appear likely to be useful from its antiphlogistic powers, but it has not succeeded in my hands.

During the *interval*, great benefit may be obtained from judicious management. The patient should take plenty of exercise, and be much out in the open air. Walking is preferable to riding or driving. Brisk purgatives, and the aloetic are the best (Hamilton), should be regularly administered, and on the approach of the monthly period, if much excitement show itself, we shall do wisely to have recourse to loss of blood by cupping before the regular commencement of the attack.

By a steady use of these means, varied according to the circumstances of individual cases, we shall rarely fail in mitigating the suffering of the patient, if we do not actually cure the disorder.

III. *Mechanical Dysmenorrhœa.*[1] I have entitled thus a difficulty in the emission of the menses, caused by a narrowing or stricture in some part of the canal of the cervix. What may be the cause of this narrowing, whether it be congenital or the result of inflammation, we may not be able in many cases to determine, but as to the fact, that it is sometimes found, there can be no doubt. We have the authority of Capuron for enumerating it amongst the causes of dysmenorrhœa, and Dr. Mackintosh, of Edinburgh, in the 2d vol. of his "Practice of Physic," states that he has repeatedly detected it. In a case which I saw some time since, through the kindness of Dr. O'Reilly, of this city, we distinctly ascertained the presence of a stricture about half way up the canal of the cervix—this stricture we succeeded in dilating.

This being the case, there can be but little doubt that, in some instances, dysmenorrhœa may be the result, but these are very rare; in short, the narrowing is only a part of the complaint, and very often exerting no influence whatever, as in the case I saw, where, although we succeeded in dilating the stricture, the dysmenorrhœa continued as bad as before.

There is no evidence given by Dr. Mackintosh, that in his cases there was any accumulation of the menses, which we might have expected if the stricture had been the sole cause of the disorder.

The success of his practice,[2] whilst it adds an important agent

[1] See Lisfranc, Mal. de l'Uterus, p. 225.

[2] He was the first to recommend dilatation by bougies, which he tried in 27 cases and cured 24—of these 24, 11 have since borne children.

to our stock of remedies, and whilst it shows how useful internal examinations may prove in menstrual disorders, does not prove that the disease was simple stricture; for we must bear in mind, that whilst he was using a remedy against stricture, that remedy itself must have been a powerful and direct stimulus to the uterus, and very well calculated to increase the activity of the uterine function.

From the evidence we possess, it is clearly our duty, in all doubtful cases of this kind, to institute an internal examination for the purpose of ascertaining the presence of this narrowing or stricture.

Treatment. If stricture be discovered, even though it form but a part of the complaint, there can be no objection to the cautious introduction of elastic bougies. It is easily effected either when the patient is upright or in bed. We should commence with one of a small size, gradually increasing until we can pass one the size of a male catheter. The patient should be carefully watched after each introduction, lest symptoms of inflammation set in, and it will be well to use vaginal injections of warm water once or twice a day. The frequency with which the bougie should be passed must depend a good deal upon the irritability of the patient—every second or third day will be often enough. The instrument, when introduced, may be allowed to remain a few minutes.

It is hardly necessary to caution against using force in passing it, or against pressing it against the upper wall of the cavity.

The patient should rest as much as possible, and take some mild aperient medicine.

CHAPTER V.

MENORRHAGIA.

This term is used by many writers to signify merely an increase in the catamenia, without any mixture of other fluids; others include in it as well, any discharge of blood which may accompany or succeed the menstrual evacuation. This latter definition has been adopted by Dr. Locock,[1] and it is probably the best, as avoiding undue multiplication of names, and allowing the expression uterine hemorrhage to be applied exclusively to floodings connected with pregnancy and parturition.

Excessive menstruation may occur in various ways; the menses may return too frequently or too copiously or at unusual periods (as during gestation and suckling). When very profuse, with protracted intervals, it has been mistaken for abortion (*Locock*). But in estimating the excess we must take into consideration both the climate and the constitution. That which we consider scanty menstruation here, would probably be set down as menorrhagia in

[1] Cyclop. of Pract. Medicine, art. Menorrhagia.

other countries, and in the same way the quantity secreted by some individuals in perfect health is excessive, compared with the discharge in other persons of equal health.

I have had occasion to notice three very distinct forms of the disease, which include, I think, most of the cases we ordinarily meet in practice.

In the *first*, the discharge is of the natural quality, but the quantity or frequency of recurrence is greatly increased.

In the *second*, the discharge is large, and occasionally mixed with clots of blood. An examination, *per vaginam*, reveals no change in the condition of the neck or body of the womb.

In the *third*, there is a considerable loss of blood, with a marked change in the size and position of the uterus.

As to the *first form*, it occasionally sets in with a sudden and violent gush from the vagina, after which it stops for some hours, and then recurs, and this alternation may continue during the usual period of menstruation. Sometimes, on the other hand, the discharge goes on regularly, but lasts for ten days or a fortnight, or even three weeks; or, the quantity each time not being extraordinary, it may return every two or three weeks; and this variety I have seen in young unmarried females, as well as in those whose uterine system has been in a state of greater activity, although it is more commonly met with in the latter. It is also, more frequently than the others, connected with that state of the lining membrane which gives rise to uterine leucorrhœa during the interval between the menstrual periods. In some cases which I have had under my care, the leucorrhœa preceded, and was evidently the cause of the menorrhagia, and when it succeeds the latter, it always appears to augment the severity of the symptoms. In those cases (of rather rare occurrence) where the menorrhagia has become almost constant, leaving perhaps hardly a week's interval, it will generally be found on enquiry, that, at an earlier period, the patient was much subject to "whites."

Symptoms. The general symptoms are exactly those we should anticipate from the continuance of a debilitating discharge. Exhaustion, languor, and dislike of exertion, weakness across the loins and hips, paleness of the countenance, headach, throbbing of the temples, tinnitus aurium and giddiness occur more or less in the slighter cases.

If the disease be not relieved, and especially if uterine leucorrhœa be present, all these symptoms become aggravated; the exhaustion and languor increase, the face becomes sallow, an aching pain is felt across the loins, extending round the lower part of the abdomen; pain in the left side, repeated and severe headaches, derangement of the stomach and bowels; in short,[1] all the secondary symp-

[1] See Dr. M. Hall's work on blood-letting and its evils, as also his paper on the same subject in the Cyclop. of Pract. Medicine; both indicate the great talent and minute observation of the author.

toms and the derangement of the health which follow in the train of anemia, no matter in what way this may be produced. In some extreme but rare cases we have diarrhœa and anasarca, with nervous symptoms, melancholy, and even epilepsy, resulting from this disorder.

Nothing is discovered by a vaginal examination—there is neither unnatural swelling nor increase of heat, the os uteri is slightly open, but there is no tenderness.

Causes. Among the more general causes of this disease, repeated childbearing and over-suckling are perhaps the most frequent. The latter is often carried to a great extent among the poor, to prevent the too rapid increase of the family, which it does very effectually when it gives rise to this disorder, but at the expense of much suffering and loss of health to the mother.

In some cases, it is attributable to hemorrhage after parturition, and in one patient of mine in whom this occurred, the catamenia have ever since returned regularly every three weeks. Excessive coition sometimes causes, and always aggravates, this affection. Cold, over-exertion, mental emotion, &c. &c. will also occasionally produce it.

In the severer cases, conception does not take place, but I have witnessed the contrary in the milder ones. It may or may not return after delivery. The *duration* of the attack is very variable; the slighter cases often subside spontaneously, and the more severe are generally amenable to suitable treatment, though they are sometimes tedious.

The *consequences* of this complaint are a great liability to abortion if the patient become pregnant, and also, from the relaxation produced, a disposition to prolapse of the uterus and vagina. (*Siebold.*)

Diagnosis. The *first form* of menorrhagia differs from the other two, in the absence of clots from the discharge, and an internal examination will enable us to distinguish it from organic disease of the uterus.

Treatment. The first *indication* is to remove the cause, if possible. If it proceed from over-suckling, the child should be immediately weaned, and the patient should live for some time *absque marito.*

It may be necessary, in persons of a full habit of body, and where the attack is recent, to take blood from the arm, cup the loins, or apply leeches to the anus. (*Locock*). Where the discharge is very copious, a dose of opium (*Dewees*), or the acetate of lead in combination with opium, will often diminish the quantity. When these remedies have not succeeded, I have found great benefit from ergot of rye, given in 5 grain doses three times a day. It has seldom or never failed in checking the discharge, without producing any unpleasant symptoms.

Dr. Locock (*Cycl. of Pract. Med.*) recommends cold to the

vulva, hips, and abdomen, with cold vaginal injections; and Dewees (*Midwifery, art. Menorrhagia*) used a vaginal injection of sugar of lead with laudanum, followed by rest on a hard bed—a dose (gtt. xx.) of elixir of vitriol and gentle laxatives—twice with success. I cannot but think, however, that throwing any cold fluid into contact with the uterus during menstruation is a very hazardous practice, and very like to convert the periodical and temporary congestion into serious inflammation. Still more strongly should I deprecate injections into the cavity of the womb itself, as recently advised in France, and the trial of which was attended with most fatal consequences. A much safer application of cold would be by enemata of cold water. Plugging the vagina has also been recommended, and as a "*dernier ressort*," it may be tried, although it is neither a very scientific application in these cases (the discharge being a secretion and not hemorrhage), nor very safe on account of the irritation it is likely to cause. If used, the plug should be removed in 10 or 12 hours, and, if necessary, a fresh one may be introduced.

Dr. Mackintosh speaks well of an enema containing a scruple of the sugar of lead.

So much for the remedies applicable during an attack. Much may also be done during the intervals by local and general remedies and a prudent regulation of the diet. A blister may be applied to the sacrum with great advantage, and either be kept open or renewed. Vaginal injections, at first of tepid and afterwards of cold water, will be found very useful. Benefit is also derived from sponging the loins and lower parts of the body with cold salt water, it relieves the distressing weakness of the loins and the general lassitude, and seconds most powerfully the more direct remedies.

Tonics, especially the mineral ones, should be given—a very useful pill is composed of sulphate of iron (gr. ½ *pro dos.*) with aloes and myrrh—or with blue pill and compound rhubarb pill. Griffith's mixture, or some analogous compound, will also answer our purpose. By some writers the carbonate of iron has been preferred, by others the muriated tincture. The bowels should be kept regular. The diet may be generous, but ought not to be too stimulating; wine in moderate quantity may be allowed. The extremities and the surface generally should be kept comfortably warm, but too great an accumulation of clothing about the hips and loins is apt to increase the complaint.

The second form differs from the first, in the more or less copious discharge of clots of blood, along with the proper secretion.

It rarely occurs in young or unmarried females, and I have scarcely seen it in persons under the age of thirty. The subjects of it are generally women of the leucophlegmatic temperament, whose constitution has been impaired by disease or frequent child-bearing. The disorder appears gradual in its progress; one or two small clots appearing at first and almost unnoticed by the patient; then perhaps an intermission, and a return in increased quantity.

After it has gone on thus for some time, the loss of blood may become considerable, so as even to cause fainting. It is impossible to say in these cases whether the catamenia are altered in quantity or quality. A *vaginal* examination throws no light upon the nature of the disease. The os uteri is found rather more open than usual, but its borders are not thickened, nor are the cervix and body enlarged; no increase of heat is observed. The constitutional effects are similar to those which arise from the preceding variety, but more severe and more rapidly produced. The pulse is very feeble, and occasionally quickened; the strength greatly exhausted, the back aching, and so weak, that sitting upright or walking is very distressing; the countenance is colourless, and the patient is liable either to serous effusions or to local congestions, from the unequal and uncertain balance of the circulation. This species is almost always complicated with uterine leucorrhœa.

The *causes* of this variety of menorrhagia are nearly the same as those of the former, and therefore I need not dwell upon them: but the *pathology* is evidently different. There can be no doubt but that congestion to a much greater extent than is usual at the menstrual periods, takes place, and it is to the effects of this over-distension of the vessels we must look for an explanation of the presence of clots in the discharge. I have not been able, however, to discover any alteration in the volume or position of the uterus by an *internal* examination.

Treatment.—The remedies which were recommended in the first variety are equally available in the second. Opium alone or in combination with lead (*Reynolds; Rush; Dewees*), and the ergot exhibited during the attack; with counter-irritation to the sacrum —the douche to the loins—cold spunging, and vaginal injections of cold water or astringent solutions,[1] during the interval, constitute

[1] Astringent injections are recommended by Dr. Blundell, for the purpose of restraining the discharge. He says, "Again, in the worst cases of passive menorrhagia (i. e. M. of the 2d species), there is another remedy (first recommended to me by Dr. Haighton), and which I have found of great value, and that is the injection of astringents, not into the vagina only, but into the uterus itself; and this has been known to succeed in cases apparently desperate, where the bleedings have been going on till the patient has been reduced to the most extreme degree of weakness. But in order to give this remedy a fair trial, you ought to inject the solution yourself; you cannot trust it to nurses, and a syringe or elastic bottle with a long neck should be used for the purpose. Simple cold water may first be tried, and, if this fail, half a drachm of alum may be dissolved in half a pint of water, and used for the purpose; weaker solutions must be employed at first; for you must not use for the inner membrane of the womb solutions of the same strength you would employ for the inner membrane of the vagina, unless by advancing gradually from the weaker solutions to the stronger as the parts may bear. Twice in the day the injection may be used; one small gush, of about two tea-spoonfuls, may be thrown up, then a second, then a third, then a fourth, in succession, and so on till you have thoroughly wet the uterus, care being taken that you do not inject too forcibly, as this may tend to irritate the vessels and increase the disease. Under the use of

our main resources. In the choice of the proper remedy, and the strength at which it is to be employed, the medical attendant must be guided partly by his own prior experience of their relative value, and partly by the peculiarities of each individual case.

Astringent medicines, such as large doses of sulphuric acid in infusion of roses, decoction of logwood, &c. &c. have been found useful, and deserve a trial. Vegetable or mineral tonics are highly beneficial in the exhausted state to which the patient is reduced. Absolute quiet is necessary during an attack, and, if exercise be taken during an interval, it should be in the least fatiguing mode possible. The diet ought to be moderate in quantity, but nutritious, and wine may be allowed. The stomach and bowels will require suitable medicines occasionally.

All possible causes, and every thing likely to aggravate the complaint, must be excluded with the utmost rigour.

The *third form*[1] differs considerably from the other two. The discharge is more profuse and its effects more severe; it is accompanied by marked alterations in the condition and relations of the uterus, occurs at a later period of life, and is more difficult to cure.

The attack is not confined to any one kind of constitution or temperament; it occurs in the plethoric and in the debilitated, in the melancholic as well as in the sanguine. I have never seen it in a patient under 40 years of age, nor after the cessation of the catamenia.

The attack is preceded for some time by irregularity of the menses, both as to time, quantity, and the duration of each period, with occasional uterine leucorrhœa during the intervals. It is not until the menses have flowed naturally for about 24 hours that the sanguineous discharge appears. Large clots are then expelled, in addition to a great increase in the fluid discharge. At first, the attack lasts 7 or 10 days only, but in cases of longer standing I have occasionally known it to continue throughout the interval, and terminate after the next period either gradually or suddenly.

The quantity lost varies of course; it is sometimes very large; it was sufficient in one case to excite fears of a fatal result.

The recumbent posture appears to have no effect upon the discharge, there being as much observed during the night as the day. Any exertion or long standing never fails to increase the amount.

the alum you will find, perhaps, that in the course of two or three days a quantity of clotted blood will come away, with pains, something like the pains of parturition, and which may alarm the patient; this is nothing but the blood coagulated by the alum, and may be regarded as rather favourable than otherwise, as it shows that the injection has been truly thrown into the womb, and that the uterus is contracting." *Diseases of Women*, p. 253.

[1] The description of this variety is taken solely from my notes of the cases I have seen; I am not aware of any author who has noticed it. Since my paper was published in the Edinburgh Med. and Surg. Journal, other cases have presented themselves to me, answering perfectly to the description there given, and amenable to the treatment there recommended.

During the attack, the patient complains of excessive exhaustion, of a sense of weight in the pelvis, of a dull pain there occasionally, and of weakness of the loins. In all the cases I have seen there was considerable dysuria, especially after long standing: several, indeed, were obliged to lie down before they were able to evacuate the contents of the bladder completely.

The general health, of course, suffers considerably; the appetite diminishes, the tongue is clean, though pale, the bowels become constipated, the surface blanched, and the strength much reduced.

The pulse is occasionally quickened, but more generally quiet, and enfeebled in proportion to the loss of blood.

An *internal* examination will detect the os uteri somewhat lower in the pelvis, and directed more towards the sacrum, than usual. It is rather more patulous than in a perfectly healthy subject, even at the time of menstruating, and the cervix is more or less swollen, especially anteriorly, where it expands into the body.[1] It appears to be tilted forward by its increased weight, so as to press upon the bladder, thus affording a satisfactory explanation of a symptom (the dysuria) which I have noticed in every well marked case of the disease. No increase of heat is observed in the vaginal canal or about the cervix. The cervix and body of the uterus are generally, but not always, slightly tender on pressure. When the finger is withdrawn, it is found covered with a sanguinolent discharge somewhat thinner than blood, and devoid of smell.

The amount of these changes will vary in different cases; in some, the cervix appears the part chiefly affected; whilst in others, the body of the womb, as far as the finger can reach, feels greatly swollen. The discharge seems to be always in exact proportion to the degree of uterine congestion.

The *duration* of the disorder is variable: it may subside spontaneously, or, in consequence of the remedies employed, in two or three months after the first attack, or it may continue for two or three years. In the latter case, however, I have always found that the patient has enjoyed short intervals of perfect freedom from the attacks.

A relapse after an apparent cure is exceedingly common, so that it is quite necessary to watch the patient closely during one or two succeeding monthly periods: I might say, indeed, that the test of the success of our treatment consists in the return of the catamenia without hemorrhage or pain, the relief obtained during an interval being often merely temporary.

Pathology. If we consider the time at which these attacks occur—a period when there is always an accumulation of blood in the womb for the performance of its functions; if we notice also the slow progress and subacute character of the symptoms with the

[1] There appears, in this particular, some analogy between this form and the "engorgement de l'uterus, par congestion avec hemorrhage," described by M. Duparcque, at p. 113 of his work on Diseases of the Uterus.

peculiar terminations of this disorder, and collate these with the information obtained by an internal examination, we shall be led to the conclusion, that the disease is rather passive than active, that it consists, in fact, in an unusual and excessive congestion of the uterine vessels, and that the discharge is the result, not of secretion, but of the rupture of some of the vascular twigs which ramify on the lining membrane of the uterus.

I have never been able to detect any special *cause*, unless we consider as such the peculiar age at which it occurs.

There is one point of view in which this form of menorrhagia possesses great interest, viz. its possible relation to some organic disease.

When we recollect, that the age at which alone it has been observed, is also about the period when many of the organic diseases of the uterus commence, we may fairly ask whether this inordinate congestion may not be the forerunner of more serious maladies? There can be little doubt, I suppose, that such congestions must leave the uterus in the most favourable state possible for the development of graver disease, and, if this be the case, this form of menorrhagia must be regarded as even of more importance than the symptoms would lead us to suppose.

Diagnosis. The diagnosis of this disorder is not difficult. Our suspicions will first be excited by the admixture of blood with the menstrual discharge; its persistence after the normal period for that excretion has expired; and the peculiarity in the evacuation of urine. All doubt will be removed by a vaginal examination.

The complaint may be distinguished, 1. *From inflammation of the uterus*,—by the heat of the part not being increased, by the *slight* degree of pain and tenderness, by the spontaneous and repeated subsidence and recurrence of the attack, and by the absence of all constitutional excitement, the tongue and pulse being nearly, if not quite in a natural state.

2. *From enlargement of the organ by morbid deposition*,—by the hemorrhage without ulceration, and by the substance of the tumefaction when the attack ceases.

3. The hemorrhage attendant on *Corroding Ulcer or Cancer of the Uterus* differs from this species of menorrhagia in the irregularity of its occurrence; it may be at the menstrual period, or during the interval; and when it does occur before the cessation of the menses, it appears entirely unconnected with that function; in addition, there is much more pain generally in these diseases than in menorrhagia, and the breach of surface they occasion, which will be detected by a vaginal examination, will decide the question at once.

4. A vaginal examination will also prevent our confounding it with the hemorrhages arising from the *cauliflower excrescence* or *polypus* of the neck of the uterus; but there may be some difficulty in a case of polypus of the fundus which has not been expelled through the os uteri. The hemorrhage, and the bulk arising from

the presence of the polypus together, render the resemblance of one disorder to the other very remarkable. The data for our guidance are principally the information acquired by a careful internal examination, the concurrence of the hemorrhage with the menstrual periods, the reduction in the size of the uterus during the intervals of the attacks, and the effects of remedies.

Prognosis. Of all the cases I have seen, none have proved fatal either directly or indirectly. All have been ultimately relieved, although some have been tedious and obstinate, and a few required a considerable time for the restoration of the general health. One of the first signs of improvement is the cessation of the uterine leucorrhœa during the intervals; this is shortly followed, in cases of recovery, by subsidence of the uterine swelling, and by a diminution of the tenderness.

Treatment. Although the complaint appear simple, it is neither easy nor possible in all cases to restrain the hemorrhage by means applied during the attack. I have found opium, alone and in combination with large doses of the acetate of lead, ineffectual. Cold to the vulva and *enemata* of cold water were equally powerless. Plugging the vagina arrested the discharge for a time, but the irritation it excited seemed to aggravate the other symptoms. Leeches to the vulva had no effect upon it, and the preparations of iron did little or no good. The only remedy, in short, which seems to have the power of controlling the discharge during the menstrual period is the ergot of rye. It may be given in doses of five or ten grains twice or thrice a day. I have never seen it produce any ill effects in this disease, although I have certainly known it fail altogether.

During an attack the patient should be kept in a state of perfect rest; she should lie on a hard mattrass, covered rather lightly with bed clothes, but with warmth applied to the feet. All her drinks should be cool and devoid of stimulants, unless she become faint, and then a little wine may be allowed.

At this period, ergot of rye, or any astringent medicine, may be given. If the discharge be not arrested and show a disposition to continue throughout the interval, it may be a question how far it would be justifiable to inject the vagina with cold water or an astringent lotion. I have never tried this, and I repeat what I have more than once said, that the risk incurred by doing it is so great, that I should fear to venture upon the attempt.

So long as the discharge continues, the employment of remedies for the *cure* of the disease must be suspended, but, when once it has entirely ceased, not a moment should be lost. A blister should be applied to the sacrum, and either kept open or repeated; I have always found good result from this—the pain in the back generally becoming less severe, and the whites diminishing in quantity. But by far the most powerful means we possess, are vaginal injections of cold water, solution of acetate of lead, or other astringents, two or three times a day. The patient should lie on her back in bed, and the fluid should be thrown up gradually.

An almost immediate improvement is the result, followed by the subsidence of all the prominent symptoms, even in those cases which relapse subsequently. The swelling of the uterus will be found upon examination to have disappeared—there is probably scarcely any whites—no pain in the back or weight in the pelvis, and the patient is able to walk about without inconvenience.

When the improvement is so marked as this, there is but little fear (with due caution) that the patient will relapse at the next monthly period; but where the relief, though decided, is not complete—where the disease still lingers, then in all probability the next menstruation will be accompanied with the old symptoms, to be met again, and perhaps more successfully, by the same remedies.

It is important to remember, that no matter what may be the degree of improvement, one or perhaps two menstrual periods should be passed with caution and rest before the patient resume her usual habits.

In some very few cases, I have seen benefit derived from cupping the loins previous to the application of a blister, but in general it is not necessary. Tonics, mineral or vegetable, are often useful, and here, as in most of the disorders of menstruation, the preparations of iron seem peculiarly beneficial. The bowels must be kept free, as the patient is apt to suffer from constipation, at the same time purging should be avoided. Good nutritious diet may be allowed, and, if the patient be much weakened, wine may be given. Great caution must be observed in admitting the patient to take exercise until after a menstrual period shall have passed safely over; then, indeed, moderate exercise in the open air will be very serviceable. All possible causes must be avoided, and for some time the patient (if married) should live apart from her husband.

In addition to the foregoing and ordinary derangements of menstruation, Doctor Blundell speaks of the discharge of "offensive catamenia." He says, "Before I speak of the cessation of the menses, I may observe here, that there are some young persons made very unhappy, because, when the catamenia form, they are offensive. Dr. Whiting related to me a case of this kind, stating at the same time what he conceived to be the cause. It seems, that the disease is produced, at least sometimes, by a partial closure of the orifice of the vagina, in consequence of which the catamenia have not a free escape during the menstruating period, and that, being partially retained in the vagina, putrescence and offence ensues. If the patient is taught to use a syringe and warm water in a proper manner, during the menstruating period, this little infirmity may be easily relieved for the time, and marriage and childbearing will accomplish the rest."[1]

[1] Diseases of Women, p. 264.

CHAPTER VI.

CESSATION OF MENSTRUATION.

The period of this great change is about the age of 45 or 50 (see page 47); it is referred to by females as the "time of life," and is dreaded by them from a belief in its excessive mortality. This opinion probably originated with medical practitioners; it is, at all events, advanced by the older writers.

The mistake (for such it is) has probably arisen from comparing the mortality of females at this period with that at any earlier period,—comparing, in fact, old and nearly worn-out women with the young and strong. We should expect the deaths among the former to preponderate,[1] but this is no reason for attributing any peculiarly fatal influence to the subsidence of the uterine function. We ought, in truth, to compare the mortality in the opposite sexes at the same age, and we shall then arrive at a different conclusion.

M. Benoiston de Chateauneuf has recently shown, by extracts from burial registries, that the mortality between the ages of 30 and 70 is not more considerable amongst women than men.

But if the comparative mortality be less than was supposed, there can be no question as to the importance of this period; for, in many cases, we find uterine and ovarian disorders dating from thence; and we know that it is about this time generally that the more malignant diseases commence. How far they may be owing to neglect at this period, it is very difficult to say; we must suppose, however, that the anatomical state in which the uterine system is left on the arrest of its function, must exert a certain amount of influence in their production.

Symptoms. These will vary very much according to the constitution of the female; if she be strong and healthy, she may find the discharge gradually declining in quantity, and changing to a lighter colour, until it cease altogether, with no periodical irregularity or bodily distress; or, the red discharge may alternate with uterine leucorrhœa towards the termination. In other cases, there is no uterine leucorrhœa, the catamenia omitting one or two periods, and then returning, and so on until they cease altogether.

But if the patient be delicate, matters may not go on so quietly; there may be repeated attacks of uterine hemorrhage, endangering life; or that variety of menorrhagia which I have described as the third form, may occur. Sometimes, but rarely, vicarious menstruation has taken place.

[1] Even this would appear somewhat doubtful, for M. Constant Sancerotte has attempted to prove, by statistics on a grand scale, that the mortality amongst women is greater between the ages of 30 and 40 than between 40 and 60.

Muret, in his statistics of the *Pays du Vaud*, did not find between 40 and 50 a more critical age for women than between 10 and 20.

M. Lachaise, in his Medical Topography of Paris, has given similar evidence. Lisfranc, Mal. de l'Uterus, p. 202, note.

So much for the mode in which the menses subside; but this does not comprise the whole of the danger, which can only be understood by considering the diseases to which so great a functional, and ultimately an organic change (see page 40), exposes all the generative organs, and those in more immediate relation with them.

In healthy women, indeed, there is often immunity from any secondary attack dependent on this cause; the patient gets much fatter, the abdomen and breasts enlarge, and she not unfrequently persuades herself that she is pregnant. Occasionally there seems to be a disposition to irregular distribution of blood, local congestions, &c., but more frequently the health is improved. This is especially the case with those patients who have suffered much from dysmenorrhœa or irritable uterus.

Delicate females, and especially those subject to menstrual derangements previously, are exposed to local diseases of the sexual system, and especially to that series of changes which issues in confirmed disorganisation.

This is the more to be apprehended if she have already been the subject of uterine disease, or if at the time any such disease be latent; and on our part it will require attentive examination and considerable practical skill.

But if the generative system escape the more serious affections, the patient, it is said, is much more liable to seizures of a temporary nature in other parts. Amongst these are enumerated hemorrhages from different surfaces, attacks of inflammation in any delicate organs, vertigo, hysteric paroxysms, colics, hemorrhoids, rheumatism, cutaneous eruptions and ulcers of the legs, dyspepsia, diseases of the breasts (*Nauche*)—profuse sweats (*Siebold*)—leucorrhœa, apoplexy, palsy, insanity, &c. (*Power*). In some very rare instances, sudden death has occurred at this period. It is not improbable, reasoning à priori, to expect a predisposition to disease upon the cessation of menstruation, which may be considered as the somewhat sudden stoppage of a constitutional drain, which in other instances is observed to have similar results. The imminence of the danger in such attacks may perhaps depend upon the abruptness of the menstrual obstruction.

Treatment. Healthy females need very little management; an avoidance of cold and of all causes which tend to excite local disease, with some attention to diet and regimen, and an occasional cathartic, is all that is required. Delicate females will require much greater watchfulness, and a prompt attention to the first symptoms which indicate disordered action of the uterus, or of any other organ. It has been found useful, in cases where this susceptibility to secondary attacks was marked, to establish an artificial drain by perpetual blisters, or an issue.

The attacks of menorrhagia must be treated as already recommended, and the local affections upon ordinary principles. Leeches or counter-irritation will be necessary in those of an inflammatory character; and stimulants, antispasmodics or sedatives for the hysterical or nervous

CHAPTER VII.

CONSTITUTIONAL EFFECTS OF DISORDERS OF MENSTRUATION.

I have already alluded to many of the symptoms consequent upon menstrual irregularities; but the subject is one of such importance, that it demands a distinct chapter. There are, of course, many degrees in which these effects are produced, and great variations in the rapidity of their progress, dependent, partly upon the constitution of the individual, and partly upon causes only partially known to us.

Two classes, differing chiefly in degree, will, I think, include the principal varieties we meet in practice, as well as those described by authors. To the *first, or milder form*, we may refer all the cases where the menstrual deviation is trifling or temporary, where it amounts to irregularity (in quantity, quality, or time) merely, and where the consequences, primary or secondary, rarely extend beyond functional disturbance, and do not threaten life. This class has been admirably described by Dr. Addison,[1] Dr. Marshall Hall,[2] and others.

In the second form, we include the severer or more protracted cases, where the uterine function is deteriorated or abrogated, without any effort for its re-establishment, and when, in addition to the symptoms described in the first variety, we have the pallor, exhaustion, and secondary diseases consequent upon a state of anemia. This has received the name of *chlorosis*, owing to the colour of the skin.

I. I shall enter briefly into the consideration of the *first form* of disorder I have noticed, or the derangement of the general health, resulting from a minor degree, or a more temporary disturbance of the menstrual function, whether that be Amenorrhœa, Dysmenorrhœa, or Menorrhagia.

The constitutional effects of these disorders come on very gradually in most cases—headach occurs occasionally, with languor, aching across the loins, uneasiness in the uterine region, and deficient appetite. The patient may continue thus a long time with temporary ameliorations, but ultimately, where the uterine system does not improve, the general health will become worse and worse, presenting certain local as well as general symptoms, which we shall now examine.

The most prominent of these local phenomena are the following, which I have placed in the order of the frequency of their occurence:

1. *Pain in the head*, sometimes across the forehead, but often in

[1] Observations on Disorders of Females connected with Uterine Irritation, by Thomas Addison, M. D. &c. &c.

[2] Commentaries on some of the more important diseases of Females, by Marshall Hall, M. D. &c. On the disorders incident to female youth, p. 1, 15, 41, &c.

the back part, occurring frequently without any apparent cause, of great intensity, seldom aggravated by light and sound, and but little affected by remedies.

2. *Pain under the left breast.* This is very characteristic, from its constantly occupying the same spot, about the size of the palm of the hand—a little to the outer side of the heart. It is not increased by a full inspiration, but occasionally there is some tenderness on pressure. The severity of the pain varies much. In many cases there is cough, with occasional palpitation, or, to speak more accurately, a consciousness of the heart's action. The stethoscope reveals no morbid phenomena.

From the peculiar locality of this pain, it has often been mistaken for splenitis or pleuritis, and treated accordingly. Dr. Addison,[1] however, is inclined to place its seat in the cardiac orifice of the stomach. This may perhaps be doubtful, but there can be no hesitation in saying that the disease is not inflammatory.

3. *Pain in the back,* or rather midway between the pubis and sacrum, and aching across the loins, increased very much when standing, and, when very severe, not relieved by lying down. In one patient under my care it alternates with sick headach; as the pain in the back diminishes, she feels a stiffness and uneasy sensation ascending the dorsal and cervical spine, and then the headach sets in. When this transference of the pain is very marked, I have found the spinous processes of the vertebræ tender on pressure, and continuing so until the pain had subsided.

4. *A sense of tightness across the chest,* with occasional attacks of globus hystericus.

Upon examining my notes of cases (upwards of 200), I find these four symptoms by far the most frequent, although many others are occasionally met with, and which have been accurately described by Dr. Addison.

These are,

5. *Pain under the margin of the ribs of the right breast,* either confined to a point, or extending from the scrobiculus cordis to the loins. It is only occasionally increased by a full inspiration, but almost always by pressure. It occasionally shoots through to the back, but rarely to the top of the right shoulder. It may be constant or intermitting, and, on its subsidence, it is succeeded for some time by fulness or tension, and it is often accompanied by a remarkable sallowness of the countenance. It is difficult to point out the exact seat of this pain; it may, perhaps, be in a part of the colon or duodenum, but it certainly is not an inflammatory affection of the liver, for which it might be mistaken.

6. *Pain in the course of the descending colon.*

7. *Pain in the course of the ascending colon.* In these situations the pain is variable in intensity, intermitting for days, or even weeks, and aggravated by flatulence.

[1] See page 24 of the work already referred to.

8. *Pain affecting the abdomen generally.* This is, in fact, a species of neuralgia, often simulating peritonitis, and only to be distinguished from it by some want of accordance in the symptoms collectively.

9. *Pain in the stomach.* Occasionally these two latter symptoms are relieved, but often aggravated by pressure: their previous history will enable us to trace their connection with uterine derangement.

10. *Pain in the region of the kidneys*, sometimes spreading along the ureters to the bladder, in which case dysuria occasionally occurs.

I have also remarked patients, who, when menstruation was irregular, were very liable to attacks of diarrhœa, with griping pain.

These are the principal local symptoms of this Protean malady, any one or more of which may be present along with the more general disturbance, and which it requires the nicest tact in diagnosis to avoid mistaking for the results of inflammation of the different organs.

In addition, the organic functions are all *below par*, the sensibility is blunted, the mental powers depressed, and the patient is low-spirited, fretful, or indifferent. If we examine as to the state of the alimentary canal, we shall find the appetite more or less deficient or fastidious, digestion imperfectly performed, and the bowels irregular, sometimes constipated, sometimes too much relaxed.

The skin is sallow or pale, and covered generally with a greasy moisture. The muscles feel soft and flabby. A peculiar cracked condition of the lips and fragility of the finger nails has been described by Dr. Hall. In severe or protracted cases, there is a dark areola beneath the eyes.

It must be borne in mind, that the assemblage of symptoms enumerated above, exhibits the most aggravated form of the disease, such as is rarely met with, and which can scarcely, when all are present, be distinguished from chlorosis. But there are many minor degrees of the disorder in which all the symptoms are marked and characteristic, but which do not present so formidable an appearance in reality as on paper.

In some few instances, the disorder is mitigated without the interference of art, and especially in those cases where the integrity of the uterine function is restored. It may, however, remain long stationary, or pass into chlorosis.

Causes. It has already been stated, that in almost all cases, this disorder of the general health is connected with disturbance, and especially sudden disturbance, of the menstrual functions. I have observed a precisely similar train of symptoms follow long continued uterine leucorrhœa or excessive suckling.

Diagnosis. The diagnosis of a complaint, with such suspicious local symptoms, is somewhat difficult at first, and requires great attention.

But by ascertaining the uterine disorders—menstrual or leucorrhœal—by noting the absence of fever and of quick pulse, by comparing the entire of the symptoms with each other, and by tracing the history of the disorder, the neuralgic or hysterical and constitutional affection may be distinguished from any the result of inflammation.

Treatment. The first object to which attention should be directed is the removal or the mitigation of any of the special causes—Amenorrhœa, Leucorrhœa, &c. &c. The measures most likely to attain this object will be found detailed in the appropriate chapters.

But, over and above the special remedies required for the uterine disturbance, or independent of them if they are unsuccessful, something may be done for the relief of the secondary symptoms. For the purpose of obtaining temporary relief, local blood-letting is frequently employed; it is, however, especially to be deprecated, as, besides the exhaustion resulting, and the slight benefit accruing from it (the pain returning, in most cases, after a few hours' or days' respite, with all its former severity), it contributes to bring the patient into a state of chlorotic anemia, with all its distressing sequelæ.

The best thing which can be done is to employ counter-irritation by blisters, &c. over the seat of the pain, renewing them at intervals. Particular attention must be paid to the stomach and bowels. At first, a brisk purgative may be given, and this may be followed by some aloetic medicines in combination with some preparation of iron. Alterative medicines are sometimes beneficial.

In some cases, hyosciamus or belladonna may be useful. I have seen the headach relieved by a dose of laudanum taken for another purpose.

In these cases it is particularly necessary to husband our resources, and to vary our mode of attack. There is no complaint more *capricious* (if I may so speak), both as to its appearance and as to the effect of remedies.

2. We next come to consider the severer form of disorder of the general health, which has received the name of *chlorosis*, or "green sickness."[1]

[1] In the third No. of Guy's Hospital Reports is a very elaborate paper on "Chlorosis and its complications," by Dr. Ashwell, the lecturer on midwifery in the Hospital School; and as the author is a man of intelligence and observation, I shall endeavour to give an abstract of his views. At page 530 he says, "The following are the principal positions which I shall attempt to illustrate:—1st, That chlorosis, complicated with amenorrhœa, is the most common derangement of the menstrual function; and that between these affections, although there are many points of similarity, yet there are numerous marks of distinction. 2dly, That if Chlorosis complicated with amenorrhœa, be of aggravated character, or long duration, it will be productive of functional disturbance, at least of the nervous, vascular, respiratory and digestive systems; and that if the disease terminate fatally, it will frequently, if not generally, be in phthisis. And 3dly, That the

And here we shall find more or less of the peculiar character of the variety just described, such as local pains, &c. but with evident aggravation. In chlorosis, the functional disorders are of a much graver character—especially where secretion is concerned—the patient is obnoxious to the sequelæ of anemia, and, in some cases, the constitution is reduced to the most favourable state for the incursions of organic disease. These, I think, are the essential characteristics of chlorosis, which itself, I believe, to be the result of uterine derangements, and a more advanced degree of the disorder of the general health, already described.[1]

treatment of chlorosis, to be extensively successful, must be early commenced and most sedulously prosecuted."

The author does not regard chlorosis as resulting from amenorrhœa, but, on the contrary, as frequently causing it or being in some way connected with it. He defines it to be "*a peculiar affection of the general health*, most frequently seen at the time when puberty is, or ought to be established;" yet often commencing long before this period, and also being the cause of its delay; in short, a state of the constitution existing previously to menstruation, but which will be modified according to the integrity with which that function is developed. The subsequent declining health and consumptive tendency is not considered (if I understand Dr. Ashwell,) as a result of a weak constitution, in the general acceptation of that word, or as a consequence of the imperfect establishment of menstruation, but that this imperfection and the deteriorated health result from the chlorosis.

I confess I am more disposed to admit the ingenuity than the correctness of Dr. Ashwell's hypothesis. I see no ground to call that degree of constitutional delicacy which precedes puberty (and equally in both sexes) by the term Chlorosis, unless we disconnect that term from menstrual irregularity altogether; for it is certainly not consistent with the results of my own observation, to assume the identity of the prior constitutional delicacy with the severer secondary affection. We constantly see young women of apparently healthy constitutions, in whom puberty was fairly developed, who subsequently became chlorotic, in consequence of menstrual disorders; and all must have noted patients in whom this tendency alternated with intervals of good health, answering exactly to the state of the uterine function. Again, the precursor of returning health to a chlorotic patient, is generally a more copious and better coloured catamenial discharge. All these observations tend to prove, it appears to me, that the primary disorder is to be sought in some derangement of the menstrual function, which, acting upon a susceptible constitution, induces all the secondary affections so characteristic of it, and by giving rise to a state of anemia, constitutes the disease which has been called chlorosis, and which (the anemia I mean) in its turn entails a new series of grave and oftentimes fatal attacks.

In the second part of his paper, Dr. Ashwell considers minutely the complication, or, as I would express it, the consequences of chlorosis, both functional and organic, and adds thereto a number of instructive cases.

[1] M. Roche (Dict. de Med. et de Chir. Prat.) regards chlorosis as generally the result of menstrual derangements, although a similar disease, he remarks, has been observed in males.

M. Lisfranc admits the influence of this function, and quotes M. Blaud de Beaucaire, who has reported (in the Revue Med. 1832, tom. 1, p. 587) 26 cases, of which 7 were between the ages of 11 and 17. In 15, the menses recurred regularly, but were of a pale colour. Cabanis assigns as the cause

In illustration of what I have advanced, we find that not only are the headaches I have mentioned severe and often recurring, but that chorea, hysteria, and epilepsy are met with (*Ashwell*). There is also temporary loss of memory, diminished sensibility, torpor, &c.; in short, functional disturbance running to the verge of organic disease. The digestive system and its appendages are equally affected; there is vomiting occasionally, with constant nausea, dyspepsia, with its manifold aches and pains, want of relish for food, &c. indications of the inefficient state of the organs by which the nutrition and reparation of the body are carried on. We find, consequently, that great emaciation takes place, and that the strength gradually (sometimes even rapidly) declines. The balance of the circulation is destroyed, and hence the palpitations[1] and repeated hemorrhages—generally from the lungs or stomach,—the effect of which is to increase still further that bloodless condition of the body which entails so many miseries. In consequence of this, we have œdema of the extremities or general anasarca. In some cases, effusion into the cavities has been known to take place, and sudden death.[2] This anemial state of the body it is which causes the peculiar and alarming pale or greenish complexion, and the sudden and violent attacks of diarrhœa.

The respiration is equally affected; it is performed irregularly, inspirations predominating over expirations, and the slightest effort

of chlorosis, the languor and inertia of the genital organs, and the deficient or irregular action of these organs upon those of nutrition and sanguification. (See Lisfranc. p. 217.)

Dr. Blundell seems to regard the disease as owing to a deficiency of the circulating fluid.

[1] M. Bouillaud has given a short but graphic description of the variations of the sounds of the heart in chlorotic females, in his work on diseases of the heart. He considers "*chlorotic palpitation*" to be a nervous affection of the heart, and he observes, "Chlorotic palpitations are not always accompanied with well marked "bruit de soufflet" in the heart; but constantly in severe chlorotic cases, the arteries of large calibre, particularly the carotid and femoral arteries, give out varied souffles, sometimes "*le ronflement d'un diable*," the sound of wind whistling through a narrow slit, the buzzing of beetles, or the cooing of a pigeon. During a period of three years, I have met one hundred times with this curious phenomenon in chlorotic females." (Quoted from a Review of Bouillaud, by Dr. Corrigan, in the Dublin Medical Journal, vol. ix. p. 501).

[2] See Dr. Hall's paper on Chlorosis in the Cyclopedia of Pract. Medicine, in which such a case is narrated. On examination after death, some serum was found in the ventricles of the brain, in the pleura and in the pericardium. The lungs also were gorged with serum, but no organic change was discovered, which would account for the death of the patient. The blood was pale and aqueous, and the clots formed in the large vessels were small and light-coloured. Dr. Hall likens the sudden death in this disease to that caused by great loss of blood.

Andral (Anat. Pathol. vol. i. p. 278) has stated that the proportion of the serum is increased, and that of the crassamentum diminished in the blood of chlorotic females.

producing hurry of breathing, and a feeling nearly allied to suffocation (*Lisfranc*).

The surface of the body is not merely pale and exsanguined, but the skin has a flabby, "doughy" feel, is of variable but seldom healthy temperature, and generally moistened by clammy, and often by cold, perspiration.

Now it may be readily conceived, without accusing chlorosis as the direct cause of organic disease, that it has reduced the patient to a condition extremely obnoxious to such attacks, and examples of such terminations are not rare. Organic diseases of the brain and liver have been observed, but much more frequently has phthisis terminated the patient's sufferings.

Diagnosis. There is little danger of confounding chlorosis with any disease or condition of the body, except that arising from loss of blood (*acute chlorosis—Dr. Gooch*) and the history of the complaint will probably clear up any obscurity.

We must still—as in the former variety of the disorder of the general health—carefully distinguish the functional derangements arising from this cause, from those arising from inflammation, although the difficulty of doing so is very much augmented, from their increased severity. Minute enquiry into the history of the patient, the sequences of the secondary attacks, together with a careful comparison of the signs and symptoms present, will probably lead us to a correct conclusion.

Dr. Hall has proposed another means of diagnosis, viz. the effect of loss of blood, a few ounces causing fainting in these affections, whereas three times as much may be abstracted without any such result when the disease is inflammatory.

There is one serious objection to this test, namely, that abstracting blood from chlorotic or anemial patients is the most hazardous experiment possible.

Causes. Derangement of the uterine function, as I have already said, appears to be at the foundation of "green sickness," as well as of the milder form of "disorder of the general health." The patient may labour under amenorrhœa, or a scanty discharge of whitish menses (*Nauche*)—dysmenorrhœa, or menorrhagia.

Sedentary habits and close confinement, of course, favour its production, or indeed may be said to cause it, by their injurious effects upon the sexual system.

It may be said to be endemic in large manufacturing towns; and it prevails also among servants whose occupations confine them closely. Mental distress and the depressing passions are very influential in its production and progress.

Dr. Hamilton ("*On Purgative Medicines*") considers constipation to be the first link in the chain, and, even if we deny this, we must admit it to be an additional aggravation of some magnitude.

Treatment. Much stress has been laid by certain writers on the almost universal efficacy of purgative medicines in this complaint; certainly they are of great value, though they have probably been

overrated.[1] Aloetic purgatives, in combination with some preparations of iron, will be found the most useful. Dr. M. Hall prescribes a pill composed of equal parts of aloes and sulphate of iron. Dr. Ashwell gives the ferr. ammoniat. The iodide of iron has been especially recommended by M. Solon,[2] and by Dr. Ashwell.[3] It seems particularly adapted to patients of a strumous habit of body, and who are obnoxious to glandular swellings. It may be given in doses of two grains a day, in any vehicle not containing tannin or other astringent matter. In some constitutions it gives rise to headach, vertigo, nausea, heat, and a sense of weight at the hypogastrium, but these unpleasant symptoms may be removed by taking some carbonate of magnesia at night, by suspending the medicine, or by diminishing the dose.[4]

Dr. Ryan (*Journal for June 18th*, 1836), mentions having succeeded in curing a case of chlorosis, in combination with leucorrhœa, by chalybeates, and the internal administration of three grains of the ergot three times a day.

[1] Dr. Ashwell's observations on this point are so judicious, that no excuse is necessary for quoting them. "At first, then, a due evacuation of the bowels must be daily secured; and much will depend on the kind of medicine by which this is effected. If mercury and drastic purgatives be frequently and largely employed, intestinal irritation will ensue, evidenced by unhealthy and undigested motions, mixed with mucus, and occasionally with blood. If the purging be excessive,—if it be exclusively relied on for the cure—debility and exhaustion will result, and, in place of amelioration, the whole of the symptoms will become aggravated and severe. The best aperients are aloes, rhubarb, the sulphate of soda and manna, and if an alterative be necessary, the hydrarg. cum cretâ. Nor must we forget, that an injection of a pint of warm water, two or three times a week, into the rectum, is of all measures the most efficacious in aiding peristaltic action, and in removing the load of the large intestines. The compound decoction of aloes, with the compound tincture of cardamons; the compound aloëtic pill, with the oil of cassia and hyosciamus; and the vinum aloës with the compound tincture of rhubarb, are the forms of these medicines I prescribe. The combination with any purgative or aperient remedies, of mild cordials, is exceedingly important."—Guy's Hospital Reports, part 3, p. 552.

"There are three principal modes in which it is proposed to manage the chylopoietic viscera—by the use of active purgatives according to Hamilton's method—by the administration of milder laxatives, consisting of the blue pill and so on, a method perhaps which is the safer, as it is the less violent,—or by the mere clearance of the bowels, under emetics, and a few doses of ordinary purgatives. Of these three modes, the second is that which I should recommend to your attention."—Blundell, p. 238.

[2] Nouv. Dict. de Med. et de Chir. Prat. art. Iode.

[3] Guy's Hospital Reports, part i. p. 128, and part iii. p. 555.

[4] M. Blaud has highly recommended the following compound. Take sulphate of iron and subcarbonate of potash, of each half an ounce—reduce them to powder separately, and then mix them gradually, add some mucilage of gum adragant, so as to form a mass which is to be divided into 48 portions; one of them is to be taken morning and evening for three days; then an additional one in the middle of the day for the next three days, and so on increasing one or two every three days.

The effects are quite surprising, according to M. Blaud; the disordered health is speedily restored, and the deranged functions are rectified.

Other mineral and vegetable tonics deserve a trial, and will often be found useful.

Peculiar care will be required in adapting our treatment to the various functional aberrations. Counter-irritation by blisters, mild alteratives, mercurial inunction, &c. are all useful in their turn, and much benefit will often accrue from remedies acting upon the gastro-intestinal mucous membrane.

It may be a serious question, whether we are justified in using any of the medicines which act directly upon the uterus, until the constitution shall have rallied somewhat. Menstruation, however induced, is generally a favourable occurrence, but there are cases where the deficienty is not in the uterine action, but in the "*materiel*" to be acted upon, and here manifestly emmenagogues would be pernicious.

Stimulating injections into the vagina have been tried with success, as far as inducing the catamenial discharge. "The ammonial injection, composed of one drachm of the pure liquor ammoniæ to a pint of milk, daily injected into the vagina, has proved very efficient in the hospital" (*Ashwell*). Marriage has occasionally cured chlorosis (*Lisfranc*).

The patient should be warmly clothed, and take a fair amount of exercise. The diet should be nutritious, adapted to the condition of the digestive organs, and accompanied with a moderate allowance of wine.

In conclusion, I would observe that the treatment of the secondary affections must be left to the judgment of the practitioner; it is impossible to do more than point out the general principles by which we are to be guided.

CHAPTER VIII.

IRRITABLE UTERUS.

We are indebted to the late distinguished Dr. Gooch for the recognition and description of this disease.[1] He gave it the name it bears at present, from the supposition that it has the same relation to inflammation of the uterus, which the so-called "irritable breast" and "irritable knee joint" (*Brodie*), have to inflammatory affections of those parts. Dr. Gooch has defined it as "a painful and tender state of this organ (i. e. the uterus), neither attended by, nor tending to produce, a change in its structure."

By a recent writer (*Dr. Scott*) in the Edinburgh Medical and Surgical Journal, and by Dr. Davis,[2] it has been considered as a kind of chronic inflammation. Without questioning the accuracy

[1] An Account of the most important Diseases peculiar to Women, by Robert Gooch, M. D. page 310.

[2] Davis's Obstetric Medicine, vol. i. p. 348.

of this observation, it appears to me that these authors describe an affection—probably, as they suppose, chronic inflammation—quite different from the one so ably delineated by Dr. Gooch. Certainly, in the cases I have seen, there was no ground whatever for the supposition of inflammatory action.

Dr. Gooch's patients were all married women; I have, however, seen it in unmarried females as well, and with as well marked symptoms.

There is no limit, within the menstrual age, to the period at which it may arise, and it is seen in persons of every temperament.

Causes. The most frequent causes are, bodily exertion when the uterus is in an irritable and excited state, as for instance, a long walk during menstruation; going about immediately after abortion, or too soon after delivery; excessive coition, and astringent injections improperly used. These are the most striking causes; but it may come on after great fatigue merely, such as dancing, dissipation, late hours, long carriage-journeys, &c.

Symptoms. There is a deep-seated pain in the lower part of the abdomen, and in the back and loins, varying in intensity, but from which the patient is never quite free. It is greatly increased when the patient is standing or taking exercise,[1] and generally diminished by lying down; sometimes, however, paroxysms occur, even when the recumbent posture is strictly observed. It is also much more severe for a few days preceding and during menstruation. Cathartics aggravate the sufferings of the patient.

The menses generally return regularly as to time (anticipating a day or two occasionally), but the quantity often varies from the usual standard. In some cases I have attended, they were scanty; in others, rather profuse. The quality of the discharge differs in different women—it may be paler than usual, or it may be mixed with clots. In all the examples I have seen, the performance of the function has been exceedingly painful.

The patient is liable also to attacks of uterine leucorrhœa, though it by no means invariably accompanies the disease.

There is always some degree of constitutional sympathy, although less than might be expected, if the amount of suffering be considered. The pulse is ordinarily not more frequent than in health, but the slightest emotion will quicken it. The temperature of the skin and the state of the tongue are generally natural. Headaches, sometimes alternating with pain in the back, are frequent, the stomach becomes delicate, and the appetite deficient and somewhat fastidious. The bowels are apt to be constipated. The patient also loses flesh, but some part of this, as well as of the gastro-enteric

[1] There are exceptions to this, however. A patient of mine labouring under this painful affection, and who cannot stand five minutes without agony, can yet travel in a half-reclining posture in a carriage for days together, not only without the slightest inconvenience or aggravation of her sufferings, but with manifest local and general improvement.

derangements, is fairly attributable to the privation of air and exercise, occasioned by the pain and the necessity for absolute rest.

If an *internal* examination be made, the uterus will often be found tender on pressure, in proportion to the amount of pain present.

The cervix and body are slightly swollen and tender, but not hard, the os uteri is unaltered, its edges are not indurated. The vagina is perfectly healthy.

Although these phenomena are usually observed, yet in many cases no deviation from the normal condition (in size or sensibility) can be detected. The disease may persist for months or years, it may be arrested by medical treatment, or it may subside spontaneously. It offers an insuperable impediment to conception (as far as our present knowledge of it goes), but as it does not terminate in any of the organic uterine diseases, the life of the patient is not placed in jeopardy by it.

Diagnosis. As pain in the back is the most unvarying symptom of uterine disorders, it alone will not throw much light upon the diagnosis of this disease; but its persistence during the intervals of menstruation, and its increase previous to each period, the absence of discharges not menstrual, the aggravation occasioned by the upright position and by exertion, the slight constitutional disturbance, the tenderness of the cervix on pressure, with the other results of a vaginal examination, will afford us grounds for correct conclusions.

It may be distinguished, 1st, *from neuralgic dysmenorrhœa*, by the pain continuing more or less severe throughout the interval, instead of ceasing with the catamenia: 2d, *from prolapse of the uterus or vagina*, with which it might be confounded on account of the distress on standing or walking, by the natural position of the contents of the pelvis, as ascertained by a vaginal examination: and 3d, *from any organic change*, by the absence of vaginal discharges, and by the information obtained from an *internal* examination.

Pathology. Judging from the absence of all inflammatory symptoms, signs, and consequences, and also from its analogy with other neuralgic affections of the uterus, there can be little hesitation, I imagine, in coinciding with the view advanced by the late Dr. Gooch, as to its nature. It appears to be a simple neuralgia of the uterus, of variable intensity, and of irregular duration, not very amenable to the resources of art, but not tending to disorganisation.

Treatment. There is scarcely any disease which is so tedious of cure, and none so liable to relapse. The slightest relaxation of the strictest regimen will often be followed by a recurrence of all the severe symptoms.

The *indications* are, 1st, to abate the pain; and 2d, to amend the constitutional condition of the patient. For the fulfilment of the first indication, the patient must be kept in a state of absolute

rest. She should either remain in bed (with the mattrass uppermost), or lie on a sofa the entire day, the shoulders being nearly on the same plane as the rest of the body. With very few exceptions (see note, page 93), all personal exertion or carriage exercise must be avoided. If the irritation be considerable, it will be advisable to have recourse to small (but, if necessary, repeated) local blood-lettings; in this, however, great caution must be observed, or much mischief may result. Counter-irritation by a succession of small blisters (of the size of a watch-glass—*Gooch*), or by dry cupping, is of great service. The latter mode I have found peculiarly useful, because it occasions no inconvenience to the patient, and also because it can be used in many places where blisters are inadmissible.

Much relief will be afforded by vaginal injections, at first of warm, and afterwards of cold water, twice a day.

Narcotics, such as opium, hyosciamus, belladonna, &c., alone or in combination with camphor or assafœtida, will often alleviate the pain; but should the stomach be too irritable, they will be found as efficious given in an enema. Opium or belladonna plasters to the sacrum or abdomen are of service.

These means are to be employed with especial diligence and tact at the approach of the menstrual period, in order to mitigate, if possible, the suffering which accompanies that secretion.

The bowels must be kept free, but the medicine used for this purpose should be very mild, as intestinal irritation always aggravates the complaint. A warm bath has sometimes been found useful. Mr. Fernandez is said, by Dr. Gooch, to have succeeded in relieving a certain class of cases by a mild course of mercury: this, however, requires great caution. The improvement of the constition must be attempted during the menstrual intervals, and will be most likely to be effected by the exhibition of chalybeate tonics, by a well-arranged, nutritious, but not too stimulating diet, and, in the few cases where it can be borne, by carriage-exercise or by remaining some time in the open air.

CHAPTER IX.

UTERINE LEUCORRHŒA.

The term leucorrhœa, or "whites," is applied by most authors to a whitish or colourless discharge from the vagina, whether it be the result of morbid action of the lining membrane of the uterus, the vagina, or of both combined.

That either of these portions may be thus affected, we should naturally expect, from the anatomical fact, that the membrane lining both these cavities is continuous, and in structure identical. I have already described such an affection of the vagina (see page 16), and that the uterine membrane is similarly affected, is proved

by *post-mortem* examinations, where a quantity of this fluid has been found in the uterus.[1] The older writers all allude to this disease of the uterus, and mention more or less of the symptoms, but without distinguishing it from vaginal leucorrhœa:[2] later

[1] Blegny found this whitish fluid accumulated in the uterus of a female, subject to whites. Blattin says that in 9 cases out of 24 that he examined, the discharge proceeded from the uterus.

[2] Avicenna and Savanarola supposed the whites to be derived from the veins of the uterus. Sylvius, Cullen, &c. from the vessels which secrete the menses. Bonnet, Dolœus, Schneider, Morgagni, Riofrey, &c. from the lining membrane of the uterus or vagina.

The first English author on midwifery (*Birth of Mankinde, by Thomas Raynald*, 1634) speaks of a relaxed state of the uterus marked by a white discharge.

Baglivi says (Prax. Med. Lib. ii. ch. viii.) "Si verò durante menstruatione, fluor albus evanescat, et, eodem finito, denuò regrediatur, pro certo habeas, mulierem fluore albo *uterino* laborare. Cætera signa fallunt, hoc verò constans est, et mulierum dolum apertè deludit."

Dr. Friend (1729) speaks of the fluor albus as arising from a plentitude of humours and vicarious of the menses; and he says that women in whom this is the case, suffer less from the suppression of the menses than others Emmenologia, p. 105.

Astruc (1762) describes a species of whites occurring periodically in chlorotic females, as a kind of substitute for menstruation, and which is also met with in others, commencing a few days before, and persisting some days after, menstruation.

Manning (1775) says that fluor albus may arise from the vagina or uterus; but in speaking of the special cause, it is observable, that they are not such as would act on the vagina, but only on the uterus.

Leake (1781) considers it a disease of the womb and its contiguous parts, and he speaks of it as supplanting the menses; it proceeds, in his opinion, from the vessels which are subservient to menstruation.

Denman mentions, that it may proceed either from the uterus or vagina; and that the fluid may be either the natural discharge increased in quantity, or an acrimonious secretion.

Dr. Alex. Hamilton ("*On female complaints*") distinguishes the uterine from vaginal leucorrhœa, and describes very accurately the different kinds of discharge.

Dr. Burns (*Midwifery*) describes, though very shortly, the two varieties, and points out the increase of the uterine leucorrhœa before the eruption of the menses.

Dr. Locock (*Cycl. of pract. Med.*) considers it difficult to establish such a distinction, and does not attempt it.

Dr. Blundell treats of vaginal leucorrhœa only.

Dr. Balbirnie translates M. Lisfranc's opinion.

Almost all French writers mention this variety; and indeed generally restrict the term leucorrhœa to a discharge of uterine origin.

Gardien and Capuron thus treat of it. Nauche calls it "Catarrhe uterin," and points out very accurately the varieties connected with menstruation.

Boivin and Dugès allot a chapter to it; and a very good account of it is given in the Dict. de Med et de Chir. Prat. art. Leucorrhée.

See also Lisfranc, Mal. de l'Uterus, p. 246.

Siebold ("*Handbuch der Frauenzimmerkrankheiten*") and Joerg ("*Krankheiten des Weibes*") both describe the uterine variety.

M. Marc d'Espine (whom I have before quoted,) has given the result of his researches with the speculum on the subject of leucorrhœa in the Archiv.

British authors seem to have given up the question of such distinction altogether, and are content with describing, in an uncertain and confused manner, under the general term "leucorrhœa," the symptoms of two different diseases.

And yet the distinction must be as important for the right understanding of the pathology of this part, as it is for the successful treatment, inasmuch as the two organs (uterus and vagina) differ as much in functional peculiarities, as in the sympathetic derangements which their diseases produce in distant organs, and in their effects upon the constitution generally. Nor is this extraordinary, for we know (in the case of other parts) that the same disease of different portions of a membrane may exhibit altogether different morbid phenomena, dependent (in many instances) upon the subjacent tissue or organ. It is on this principle that I would explain the differences in the train of symptoms, and constitutional suffering, which may be observed in vaginal and uterine leucorrhœa when the disease is essentially the same. That in some cases the diagnosis may be difficult, and in a few impossible, must be admitted, but that in by far the larger number it can be satisfactorily established, I have no doubt.

Believing the separate existence of this disease, as well as its combination with a similar affection of the vagina, to be beyond question, and conceiving the distinction to be possible in most cases, I shall now describe it as it has presented itself to me in practice.

Before, however, I proceed to detail the symptoms and course of the disease, it may be well to point out the circumstances under which it occurs, not only as illustrative of its nature, but as affording *data* for our diagnosis.

Gen. de Med. for Feb. 1836. He notices its continuance during the menstrual intervals, and also its occurrence just before or just after the menstrual evacuation. The climate of the middle and north of France seems most favourable to its production, and women with very light or very dark hair seem most liable to it. The character of the constitution seems to exercise very little influence. Out of 19 women subject to whites habitually, 6 were robust, 9 were moderately strong, and 4 weakly.

An examination with the speculum gave the following result in 193 cases. In 23 the uterine orifice was found dry—in 40 there was just a drop of discharge in the orifice—in 130 the discharge was abundant. The orifice may be quite healthy, pale, red, or bright red, and occasionally it is granulated and bloody.

The following table will exhibit the character of the discharge, and the state of the uterine orifice, in 111 cases.

	Orifice healthy.	Orif. reddish.	Orif. deep red and granulated.
Aqueous discharge,	7	3	1
Albuminous transp. discharge,	30	6	6
Album. semi-transp. discharge, streaked blue, gray or yellow,	13	19	10
Opaque discharge, streaked,	3	7	6
	53	35	23

1. In young females of delicate constitution, it is not uncommon to find a secretion of "whites" at one or two of the monthly periods preceding the development of the catamenia, and vicarious of them. (*See Disorders of menstruation*, page 56.)

Cases of this kind repeatedly occur, and it has been already pointed out how much their treatment must be modified by the discovery that the uterine system is already in action, although giving rise to a morbid product for want of proper "*materiel*" to act upon.

2. In suppressed menstruation, the subsequent monthly periods are often marked by a discharge of "whites," nearly the same in quantity, and continuing as long, as the natural secretion.

3. The *intervals* of menstruation may be occupied by uterine leucorrhœa; in these cases the discharge increases two or three days previous to the appearance of the menses, and re-appears in great quantity after their subsidence.

It not unfrequently happens, that the uterine leucorrhœa ulti mately supersedes the catamenia, and becomes vicarious of that discharge.

This is by far the most common variety of uterine leucorrhœa; and as it does not at first interfere with the regular return of the "courses," it is very liable to be passed over unnoticed.

4. Menorrhagia is occasionally caused, and very often accompanied by this white discharge, which increases just before and after the menstrual periods, and sometimes occupies the interval. This complication appears to add much to the distress of the patient, and the menorrhagia is not easily relieved until the leucorrhœa is cured.

5. About the "cessation of the menses," the few last periods are often marked by the occurrence of "whites," instead of, or alternating with, the proper menstrual discharge.

6. In chlorotic patients, uterine leucorrhœa is often vicarious of the menses (*Nauche; M. Hall*). I saw a patient not long since, in whom this substitution continued many months.

7. After abortion, a white discharge is, in many cases, secreted either constantly or occasionally, for some months, and this condition of the uterus appears to predispose to successive abortions.

8. After childbearing, when the distinctive character of the lochia has disappeared, this inodorous white discharge will often continue for a month or six weeks: or, in females confined for the first time, we may observe, at the termination of the first, or more frequently of the second month after delivery, a considerable flow of "whites," which may either cease after two or three days, or, in smaller quantity, become persistent. The menses sometimes appear subsequently, and supersede the uterine leucorrhœa. The occurrence of this discharge, at this particular time, occasions great alarm, from a supposition that it indicates serious disease of the uterus.

These are the principal circumstances under which I have observed the disease, and in which little doubt can be entertained as to the source of the discharge. In all the varieties it exists either

concomitantly with, or immediately succeeding to, an evident uterine affection; or it is complicated with menstruation. In the former, there is an *à priori* presumption, that the discharge is from the uterus; and, in the latter, the effects of the periodical determination of blood to that organ, upon the quantity of the secretion, would seem to point to a similar inference, especially when we find that no such augmentation is observed in vaginal leucorrhœa.

At the same time, it cannot be denied that vaginal leucorrhœa may be also present in any of the foregoing cases, although the uterine disorder be predominant, and modify all the symptoms. Neither is it asserted, that all cases are as obvious and as easily to be made out as it would appear from the description on paper.

We are now prepared to consider more closely the nature and progress of this disease. It may be defined as *a more or less profuse discharge of fluid secreted by the lining membrane of the uterus, varying a good deal in quantity and colour, but neither accompanied nor followed, necessarily, by disorganisation of the tissue of the womb.*

It may attack females of all ages: the *acute* form is more frequent in younger, the *chronic* in elder persons. It is observed in women of every temperament, according to the peculiar cause. In the leucophlegmatic, in whom, from deficient "*materiel*," the uterus appears unequal to the secretion of the florid catamenia, or in whom, from constitutional causes, the vessels of the mucous membrane lining the womb are in a state of unusual activity;—in the plethoric and robust, in whom the circulation, rapid and energetic throughout the whole system, is peculiarly so in the sexual organs during their functional life;—and in the melancholic, whose mental depression so frequently aids in the aggravation of what was originally a trifling malady, and whose fears are acutely alive to any disorder affecting these parts.

Causes. These are so numerous, that I can do little more than mention them. They consist partly in the ordinary and extraordinary local stimuli, partly in more general impressions, and partly also in certain states of the constitution. Amongst the latter, we find deficiency of secretive energy, as exhibited in those cases where uterine leucorrhœa is vicarious of, or introductory to, the menses; frequent abortion or childbearing, over-suckling, scrofulous habit, &c. &c.

It may also result from cold, fatigue, deficient nourishment, too stimulating diet (*Dugès*), certain localities or atmospheric changes (*Nauche*), sedentary employments (*Dugès*), suppression of eruptions, &c.

Of the first species of cause (local stimuli) we may enumerate excessive coition, the use of emmenagogues, stimulating injections, the irritation arising from a pessary in the vagina, or from worms in the rectum, &c. &c.

The attack itself may be either *acute* or *chronic;* the former is comparatively rare, though I have seen some well marked cases of

it.[1] The chief difference between this and the chronic form consists in the greater degree of local suffering and constitutional excitement present. The pulse is quickened, the skin is hotter than natural, and there is some thirst. The patient is very liable to hysteric paroxysms. If an internal examination be made, the cervix and body are somewhat tender to the touch, and perhaps slightly swollen. There is no perceptible increase of heat, and the discharge does not differ from that observed in the chronic form.

The uterine irritation may be communicated to the bladder and urethra, giving rise to spasmodic retention of urine.

If these cases be not cured, they subside gradually into the chronic state.

In the slighter and more recent cases of *chronic* uterine leucorrhœa, the symptoms are mild, and there is but little distress experienced; a degree of languor, occasional weakness in the back and loins, a headach now and then, the complexion paler than natural, with an unusual degree of moisture about the external parts of generation, are the principal variations from a healthy condition.

But in the more aggravated cases, and especially in those where the leucorrhœa has gradually encroached upon and superseded the catamenia, the effects are very severe. There is considerable local

[1] I am indebted to the kindness of my friend, Dr. Graves, (amongst many other favours) for the opportunity of observing and treating a case of this kind in the Meath Hospital. The patient was about 30 years of age, had borne one child, and had not menstruated, at the time I saw her, for seven months; during which time there had been a constant discharge of whites, increasing for a few days every month, and latterly becoming very profuse at each period. Hysteric paroxysms occurred three or four times a day—pulse about 90—skin rather above the natural heat—some thirst. She suffered much from spasmodic retention of urine.

On examination, I found the cervix uteri somewhat puffy and tender, but neither enlargement of the uterus, nor heat of the vagina. I ordered the loins to be cupped, and a blister applied subsequently. Vaginal injections of tepid water were administered twice a day, and the bals. copaibæ was given. These measures afforded much relief. In the course of a week, the discharge diminished greatly, and the menses re-appeared, and, by persevering in the same plan of treatment for about a fortnight longer, she was discharged cured.

M. Lisfranc has described a very severe form of acute uterine leucorrhœa, much more aggravated than any I have seen. He says (Mal. de l'Uterus, p. 249,) "Often, after some inappreciable cause, an unpleasant itching of the genitals is felt, increasing until it reaches to the uterus, to this is joined a sense of heat and weight in the pelvis. The hypogastrium becomes tense and sensible to the touch. The womb seems to press inconveniently upon the perineum. The patient experiences dragging about the loins, extending to the groins, hips, sacrum and thighs. There is frequent desire to pass water. The pudendum often participates in the tumefaction of deeper seated parts, and hence standing and moving is very painful; and if the swelling of these parts is considerable, it may be impossible to remain in a sitting posture. This state is ordinarily accompanied by nausea, lassitude, and "malaise," sometimes by pain in the joints. About the third or fourth day, if the disease be not previously arrested by appropriate treatment, a clear, limpid, viscous discharge escapes from the vulva."

suffering, a constant aching or pain in the back, or, to speak more accurately, midway between the pubes and sacrum (i. e. in the uterus), a sensation of weight in the pelvis, and occasionally of bearing down. The constitutional distress is also in proportion; the patient complains of languor, and indisposition to exert herself, of great exhaustion and debility; the pulse is generally small, weak, and rather quicker than natural; the skin has a yellowish or greenish tint, sometimes flabby and moist, at others dry and hot, the eyes appear sunken, and are surrounded by dark circles; in short, the case may assume the characteristics of chlorosis.

The headaches are frequent and very severe, but without evidence of vascular excitement; there is no intolerance of light or sound. In many cases, the pain is seated in the back part of the head.

Vertigo and fainting are not uncommon. Sympathetic pains in distant parts form a very characteristic part of the suffering.

The tongue is seldom dry or loaded, it is generally of a yellowish red colour, flabby, and indented by the teeth (*M. Hall*). The appetite diminishes, and becomes fastidious; and torpor of the bowels succeeds, with deficiency of the hepatic secretion. There is occasionally observed an eruption (acne punctata or rosacea,) on the forehead and face.

An examination *per vaginam* reveals sometimes, though rarely, a slight enlargement of the body of the uterus, with some tenderness on pressure in the *acute* form, but little or none in the *chronic;* the os uteri is rather more open than in the healthy state. More frequently, however, no additional information is gained by this examination.

An examination with the speculum may show the mucous membrane of the cervix pale, slightly rose colour, deep red, or spotted; but no inference can be drawn from this as to the nature of the discharge.[1]

The discharge varies very much in quantity. I have known it so profuse as to oblige the patient to use several napkins in the course of the day.

In most cases, it is nearly colourless and semi-transparent: it has, however, been observed of a greenish or brownish tinge (*Hamilton, sen.*) It possesses different degrees of consistency, from the ordinary thin mucus, up to the gelatinous or curdled fluid described by Hamilton and Nauche.

It is generally of a bland character, and does not irritate the parts with which it comes in contact; but in a few instances I have known it to be very acrid, causing excoriation of the labia and surrounding skin.

I have already referred[2] to the question as to whether a discharge of this kind may give rise to gonorrhœa in the male, and I have stated two cases which seem to bear upon the point.

[1] See the Mem. of M. Marc d'Espine in Arch. Gen. de Med. for Feb. 1836.

[2] See Vaginal Leucorrhœa, page 19.

The *duration* of the disease is variable. The cases connected with the menstrual function are generally the most prolonged.

The attack may cease spontaneously after running a certain course, or it may be cut short by the use of appropriate remedies. It is very rare to meet with a case which resists all our efforts.

Pathology. From the constitutional characteristics of many individuals thus affected, it has been supposed that uterine (as well as vaginal) leucorrhœa originates in debility, a condition the opposite of inflammation. That the general system may be in such a state is very probable, but it by no means follows that the individual organs are so. On the contrary, we know that in many cases of constitutional weakness, the cause must be sought in the inflammatory condition of certain organs. In the present instance, this appears to be the case; for if we consider the local distress, the increased secretion, the course of the disease, and the remedies which are most successful, we can have but little hesitation in attributing all to the effects of inflammatory action—generally subacute or chronic—of the mucous membrane lining the uterus. As to the identity of the vessels engaged with those which secrete the menses—an opinion advanced by some authors,—it is very difficult to speak decidedly. In some cases, as where uterine leucorrhœa becomes vicarious of the catamenia without any intermediate steps, t appears not improbable that the vessels may be the same, though he products are so different.

M. Mojon de Genés (see page 35) believes that the extra permeability of the capillaries of the uterus is the condition which gives rise to leucorrhœa. But this mechanical hypothesis leaves us without any means of explaining the series of vital phenomena which result, and which can only be accounted for on the supposition of deranged vital action.

Diagnosis.—Uterine leucorrhœa may be confounded with uterine gonorrhœa, with vaginal leucorrhœa, and with the white discharge arising from inflammation of the glandular apparatus of the cervix, &c.

1. *From the former* (*uterine gonorrhœa*) it is with difficulty distinguished, unless the superficial erosions described by Ricord be present. In uterine gonorrhœa (when acute) there is generally a burning pain all along the genital canal, with pain on coition. The discharge is of a deeper colour than in leucorrhœa, and there may be scalding on passing urine, with urethral discharge.

2. *From vaginal leucorrhœa* it may be distinguished by the circumstances in which it is observed, as, for example, after abortion and delivery; preliminary to, and vicarious of, the first menstruation, &c. &c. or by its peculiarities at the menstrual epochs, and its greater effect upon the constitution.

I have already stated, that when uterine leucorrhœa occurs during the intervals of menstruation, the discharge is always increased after the catamenia cease, and most frequently before they appear, and that it gradually encroaches upon the due per-

formance of that function, rendering the flow less copious or less regular; as far as my experience goes, no such phenomena occur with vaginal leucorrhœa. Again, after careful investigation of many cases, I doubt very much whether vaginal leucorrhœa ever gives rise to the severe constitutional symptoms I have detailed, and which are very often attributed to it; at any rate, I am sure that such cases are very rare. The results of any mode of treatment are perhaps scarcely fair grounds of diagnosis, but they may afford some confirmation of an opinion derived from other sources; and I have invariably found that astringent injections, so beneficial in vaginal leucorrhœa, are highly injurious in the uterine variety.

Dr. Jewel, in the excellent little work I have quoted before, proposes a test for uterine leucorrhœa, founded on the supposition that if the discharge be from this cavity only, it will not issue therefrom during the night, when the patient is lying down. If a piece of sponge be introduced over night, and removed before rising in the morning, and there be no discharge upon it, he concludes that the vagina is unaffected, and that the leucorrhœa by day is uterine. If the contrary be the case, he regards the vagina as the seat of disease.

No doubt, this ingenious method may be decisive in some cases—in all cases indeed where there is no discharge on the sponge; but this will only happen where the discharge is so small as to be contained in the cavity of the womb (which is about the size of an almond); if it be more than this, it must escape, no matter what be the posture of the patient; and so the sponge may be soaked therewith, without the vagina participating in the complaint.

Moreover, in all cases where the two species of leucorrhœa co-exist, and in which generally the predominant *symptoms* of the uterine affection are very recognisable, this test is inadequate, as affording evidence of the vaginal disease only, and mischievous, as leading us to overlook the uterine affection.

3. *From inflammation of the glandular apparatus of the cervix uteri*, by the regular white opaque discharge, and the tenderness on pressure peculiar to that disease; the occurrence of either of which phenomena is accidental, and only occasional in the disease under consideration.

4. *From the contents of an abscess of the uterus, ovary, or cellular membrane, discharged through the vagina*,—by the sensible qualities of the purulent matter in the latter case, and by their absence in leucorrhœa, by the absence of previous symptoms of uterine or ovarian disease, and by the actual symptoms of uterine leucorrhœa (*Lisfranc*).

Treatment. There is no more striking distinction between the two species of leucorrhœa, than is to be found in the effects of astringent injections. In vaginal leucorrhœa they are extremely successful; the symptoms are ameliorated, and the discharge arrested without any unpleasant consequences. This is not the case in uterine leucorrhœa—if no evil results from their employment, the patient derives no benefit, but continues to labour under the dis-

charge for months together.[1] In other cases, I have known them to cause great irritation, with menorrhagia and an aggravation of the local distress.

In cases of the *acute form* of uterine leucorrhœa, it will generally be advisable to commence by cupping the loins or applying leeches to the vulva. After this, hip baths and vaginal injections of warm water (a uterine warm bath) may be employed until the acuteness of the attack has subsided, and the patient is in a condition favourable to the application of counter-irritation.

At this stage in the *acute*, and at any period in the *chronic* form, a blister may be applied to the sacrum, and repeated once or twice, if necessary. Its effect, in most instances, is an immediate diminution of the discharge, and a mitigation of the local uneasiness.

There are four medicines from which I have seen benefit derived.

1. Balsam of copaiba, given in increasing doses, commencing with 15 drops three times a day; or, if the stomach be delicate, it may be made up into pills.

2. Preparations of iron, and especially the sulphate—the mode in which I have exhibited it, is in combination with blue pill, and the compound rhubarb pill. It improves the condition of the digestive system, and appears to exert a decided influence over the leucorrhœa.

3. Decoction of logwood. In two or three cases in which I made trial of this medicine, it seemed to be very useful, the discharge diminished, and the patients were ultimately cured.

4. Ergot of rye. This remedy has been highly recommended by MM. Roche, Dufrenois, Bocquet, Negri, Ryan, &c.; and in some very obstinate cases in which I prescribed it, it succeeded after the failure of other medicines.[2] I gave it in doses of five grains three or four times a day.

These are the remedies which I have found the most efficacious; but their effect is greatly increased by the previous application of the blister.

There are other medicinal substances which have their advocates; powdered colchicum root was recommended in a recent number of the American Journal of the Medical Sciences, but it failed in my hands.

Iodine has been highly praised for its effects in leucorrhœa. MM. Brera, Gimelle and Sablairolles are said to have used it suc-

[1] The substance of this chapter was published in the Edinburgh Journal, No. 121, and since that, I have received several gratifying communications from professional gentlemen in this country and in England, as to the success of the plan of treatment I ventured to recommend. They have all especially instanced its efficacy in cases where injections had failed. I can truly add, that my own confidence in it keeps pace with my increased experience.

[2] See Lisfranc, p. 379, *note by M. Pauly.*

cessfully in old and obstinate cases.[1] Gimelle gives an ounce of the syrup of iodine, evening and morning, in some appropriate infusion.[2]

Nauche speaks well of aromatic medicines. My friend, Dr. Hunt, informs me, that he has succeeded in curing leucorrhœa by capsicum alone, in doses of two grains three times a day.

In some cases it will be advisable to prescribe some vegetable tonic, as the sulphate of quinine, along with these special remedies.

Benefit will probably be obtained from the chalybeate waters.

When the disease is on the decline, I have seen much comfort derived from sponging the back, loins, and lower part of the abdomen with tepid or cold salt water. The state of the stomach and bowels should be carefully attended to. Should constipation occur, a combination of blue pill with rhubarb, or of aloes with assafœtida, followed by a moderate dose of castor oil, will be advisable. Emollient enemata are also very useful.

Conium, hyosciamus, or opium may be given, if there be much local or general irritation. Cleanliness is of the utmost importance; the external parts should be washed with tepid water, or milk and water, two or three times a day, and carefully dried afterwards. If there be any excoriation, the use of a lotion, containing sugar of lead or black wash, will probably remove it.

The patient should be comfortably, yet not too warmly clothed, especially about the loins and hips. Air and exercise are of the greatest service when so taken as not to add to the uterine irritation; this caution is peculiarly necessary when the patient is recovering.

Sea bathing, at the proper season, may be allowed after the discharge has entirely ceased.

It is scarcely necessary to add, that all possible causes must be removed or avoided.

I have rarely found this mode of treatment fail; even after a relapse (to which patients are very obnoxious); a steady perseverance in the use of the remedies I have recommended is almost always rewarded by success.

CHAPTER X.

PHYSOMETRA, OR UTERINE TYMPANITES.

This term is applied to an accumulation of gaseous fluid in the uterus, which occurs under very different circumstances. It may be a secretion by the lining membrane of the uterus, especially after certain diseases (*Nauche*,[3] *Burns*[4]); or it may arise from the

[1] See art. Iode by M. Solon, in Nouv. Dict. de Med. et Chir.
[2] See cases in Journal Univ. des Sciences Med. tom. 25, p. 5.
[3] Mal Propres aux Femmes, tom. 1. p. 150.
[4] Burns' Midwifery, p. 186, last edit.

decomposition of a portion of the placenta, of a clot (*Dugès*[1]), or of some of the lochia; and, consequently is much more frequent in women in childbed than at any other time (*Mackintosh*;[2] *Dugès*). One condition, however, is common to both these varieties, viz. that the os uteri is completely closed; whether by induration and contraction of the canal of the cervix, or by some temporary obstruction, will make no difference in the symptoms, merely in the progress and termination of the disease.

It is said that air may be drawn up into the vagina, in a relaxed state of these parts, by the motions of the muscles in the neighbourhood (*Dugès*), and this, I suppose, is what Doctor A. Hamilton means by attributing it to a "relaxation of those parts."[3] Astruc says that when the uterus does not contract, air will fill the void, and if the os uteri at the same time be closed, physometra will result.[4]

It has been known to occur during gestation after the death of the fœtus (*Le Duc; Nauche*); or it may occupy the place of the false waters, that is between the chorion and amnion, the fœtus being alive. Baudelocque saw a case where the gaseous exhalation took place after death, and was sufficient to expel the fœtus.[5]

All persons engaged in the practice of midwifery must have observed the escape of gas, often fetid, from the vagina, during an operation. This must have been accumulated in the uterus, as in many such cases the pelvis is filled by the child's head.

In the idiopathic physometra, the gas is inodorous; but not so, when the result of decomposition. In the former case, nothing but air is contained in the womb; in the latter, especially when the source is the ichorous discharge from a cancerous ulcer, there is fluid also contained in it (*Astruc; Nauche; Dugès*).

It must not be forgotten, that there may be explosions of wind from the vagina without accumulation in the uterus (*Denman*[6]); and Hamilton conceives that this may occasionally be owing to a communication between the vagina and rectum.

Pathology.[7] It is very difficult to speak decisively upon this point, as to those cases where the disease is idiopathic, because of the scantiness of our information derived from *post mortem* exami-

[1] Dict. de Med. et de Chirur. Prat. art. Physomètre.
[2] Practice of Physic, vol. ii. p. 411.
[3] On Female Complaints, p. 19.
[4] On Diseases of Women, vol. ii. p. 188.
[5] Dict. de Medicine, art. Pneumatose, p. 198. 1827.
[6] Midwifery, p. 72, last edit.
[7] Mr. John Hunter endeavoured to elucidate this subject by minute enquiry, but failed. In one case, where he made a *post mortem* examination, he found no disease in either uterus or vagina.—Work on the Animal Œconomy, p. 206.

Dr. Hooper saw a case in the living subject, but never post mortem.

Dr. Gooch states his experience thus:—"Air is formed in this organ (the uterus), but, instead of being retained, so as to distend it, it is expelled with a noise many times a day. It has been doubted whether it really came from

nations.[1] That mucous membranes, in an unhealthy state, do secrete gas, we have abundant proof, but whether as the result of chronic inflammation, or as a mere functional disturbance, may perhaps be doubtful; on the whole, I am inclined to believe that the lining membrane of the womb is in a state of subacute or chronic inflammation (*Lee*[2]). To this must be added the important fact of the obstruction (temporary or permanent) of the canal of the cervix. This may be caused by viscid secretion, by false membrane, or by that process of gradual obliteration by the increasing density of the structure of this part to which I have before referred. (See page 41.)

As to that variety when the gas is merely accumulated in the uterus from an obstacle to its exit, the origin of the gas is easily explained, by supposing a decomposition of such portions of placenta, clots of blood, or cancerous ichor as may be contained in the womb. The change is simply chemical, and does not necessarily involve disordered action on the part of the uterine membrane. This explanation applies also to those cases when the gas escapes during an obstetric operation. There is no reason to suppose it to have been produced before the commencement of labour, unless the child have died previously. As to its occurrence between the amnion and chorion, it must arise from the decomposition of the jelly-like fluid, (*allantois—Velpeau*) ordinarily found there.

Symptoms. The three most prominent symptoms are precisely those which are so well marked in pregnancy. The menses, (according to the almost universal testimony of authors) are suppressed —the abdomen enlarges—and milk is secreted (*Frank*).

The amount of accumulation, according to Astruc and others, seldom appears to be very great, and the bulk of the uterus not greater than in the 4th or 6th month of gestation; but Peter Frank quotes the case of the wife of a German physician, in whom it extended from the pubis to the diaphragm.[3] Before it can exceed this, something generally causes its expulsion. Blows, falls, bending forward, forcing at stool, sneezing, coughing or vomiting, &c. may effect this, and give rise to a loud explosion followed by a discharge of fluid. When this occurs frequently, as it is entirely involuntary, it puts the patient completely "*hors de société*."

the uterus; but, in one of my patients, there was a circumstance conclusive on this point: she was subject to this infirmity only when not pregnant; but she was a healthy and breeding woman, and the instant she became pregnant, her troublesome malady ceased. She continued entirely free from it during the whole of her pregnancy, but a few weeks after her delivery it returned."—Diseases of Women, p. 241.

[1] Peter Frank mentions a case, in which, after death, the uterus was found enlarged, hard and elastic, filled with gas of a very fetid odour. Its interior was ulcerated, and its orifice hardened and corroded internally. In another case, the orifice was closed by a polypous growth. (Vol. iv. p. 50, of the French trans.)

[2] Cyclopedia of practical Medicine, art. Pathology of the Uterus, vol. iv. p. 363.

[3] Op. citat. vol. iv. p. 49.

The breasts increase in bulk, not merely by addition of fat, but by the enlargement of the mammary gland, and a thin fluid is sometimes secreted, such as we find before delivery.

In most cases there is neither pain nor uneasiness, except what may arise from the bulk, nor does the patient complain either of weight or heat (*Astruc*); but in others the distress is considerable; there is heat and stinging pain in the tumour, extending to the groins, thighs, and vulva; and in the case of the German lady I have alluded to, it was so great that she was unable to move a limb.[1] The pressure of the distended uterus upon the neighbouring viscera may interfere with the due performance of their functions, the appetite becoming delicate, and the bowels constipated (*Chomel*). Conception, of course, is prevented for the time being; but in two Paduan ladies, quoted by P. Frank, it occurred immediately on the expulsion of the gas. If the disease be often reproduced, there is danger of its giving rise to ascites (*Nauche*).

The abdominal tumour is elastic, and, when percussed, yields a clear loud sound. A vaginal examination will show the os uteri higher than usual, and the cervix diminished in length.

It need scarcely be said, that when the physometra proceeds from derangement of the mucous membrane, it is much more tedious than in cases of accumulation merely.

Diagnosis. 1. It may readily be mistaken for *pregnancy;* but it is distinguished from it by the resonance of the tumour, by the absence of ballottement, fœtal movement, and the signs afforded by auscultation, and by the severe pain (*Carus*).

2. From *hydrometra*, by the greater elasticity of the abdominal tumour, and by its resonance.

3. From *ascites*, by the defined shape of the tumour, by its resonance, and by the absence of fluctuation.

4. From *scirrhous* or *steatomatous* depositions, by the elasticity and resonance of the tumour.

Additional light will often be thrown upon the question by the occurrence, previously, of explosions of air from the vagina.

Treatment. The *first indication* is to empty the uterus of the air; and the *second* to prevent its subsequent secretion or accumulation.

Astruc, and the older writers, advise our exciting vomiting or sneezing, or setting the patient to jump about, having previously employed warm baths, and if this do not succeed, we are to move about the cervix uteri with the finger. It may be all very well to try these methods, as they do no harm, but in most cases we shall ultimately be driven to the only plan upon which reliance can be placed, and that is, the introduction of a canula through the os uteri and canal of the cervix into the uterine cavity. The air will escape through the canula (the size of which must be suited

[1] See also Carus' Gynœcologie, vol. i. p. 308.

to the canal), which is to be kept *in situ* till the uterus is quite empty.

Great care and gentleness is necessary, and it will require rest and good management for a few days to avoid inflammation.

But though the first indication be thus fulfilled, this is a small part of the cure, as the gas would shortly be secreted again.

Injections of warm water into the womb itself should be used once or twice a day, for some time after the operation; and if the disease result from decomposition of offensive matter, it will by this means be removed.

In more obstinate cases we are advised to inject weak solutions of chlorine (*Dugès*), or astringent lotions (*Mackintosh*), or mineral waters. Denman recommends the Bath waters. Warm baths and "*douches*" have been found useful.

I should expect a good deal of benefit from vaginal or uterine injections of nitrate of silver, its antiseptic properties are as marked as its power of changing the morbid action going on in mucous membranes.

It may be necessary to give tonic medicines, internally, where the constitution has suffered; and benefit may be in some cases also derived from mild alteratives, such as Plummer's pill.

CHAPTER XI.

HYDROMETRA, OR UTERINE DROPSY.

This disease consists essentially in the excessive secretion of fluid, and its accumulation in the uterus, in consequence of the obliteration of the canal through the cervix or the closure of the os uteri. It may be considered as *idiopathic*, when the fluid is secreted by the mucous membrane lining the cavity; and *symptomatic*, when it is the discharge from an ulcer, retained in the uterus owing to the closure of the ordinary outlet.

It occurs principally in married women not advanced in years; and, judging from this circumstance, Duges[1] supposes that it may have some connection with the function of generation.[2] The fluid

[1] Dict. de Med. et de Chir. Prat. art. Hydrometrè.

Frank describes 4 species of hydrometra. 1. The Cellular—when the effusion is immediately underneath the serous membrane of the uterus. 2. The independent, the fluid being in the uterine cavity. 3. The Hydatic. 4. Hydro-physometra, where both fluid and air are contained in the womb.

Carus adopts the same division, and enumerates the following symptoms as characteristics:—1. Interruption of digestion through loss of appetite or disgust of food; vomiting, costiveness, flatulence and pain in the lower belly. 2. Weight and pressure in the pelvis. 3. Gradual diminution of the urine. 4. Prolapse of the vagina or even of the uterus, as the consequence of atony of the sexual system. 5. Œdema of the external parts of generation and of the lower extremities. 6. Slow fever. Gynœcologie, vol. i. p. 303.

[2] There are two species of uterine dropsy to which females are subject

contained in the uterus varies very much in quality. At an early period of the disease in the *idiopathic* variety, it is most frequently serous, albuminious, or mucous; as the disease advances, however, if the deeper uterine tissues become involved, it changes to a thick, offensive, dark coloured matter.

In *symptomatic* hydrometra, the fluid is generally mixed with puriform matter or blood. In one case, when death was caused by gangrene of the intestine, the os uteri was obliterated, and the uterus resembled a pouch filled with a greenish liquid pus, "evidently the result of chronic metritis" (*Dugès*). In another, the womb was distended with a colourless aqueous fluid containing albumen, and which had been discharged from a cancerous ulceration of the cervix (*Dugès*).

The quantity of the contained fluid differs much; in many instances it never amounts to more than one or two pints, further

during pregnancy:—1. "*Hydramnios*," or excess of liquor amnii (*see Mauriceau, La Motte, Baudeloque, Gardien, Frank, &c.*) is said to result from a general serous diathesis, from excessive secretion, or from subacute metritis during gestation (*Dugès*), though the first and last of these causes are hardly consistent with the fact that this is a disease of one of the fœtal membranes. M. Mercier attributed it to inflammation of the amnion. (Journal Gen. de Med. vol. 43 & 45.) Dr. Lee (Cycl. of Pract. Med. vol. iv. p. 384,) has examined eight cases without discovering any traces of inflammation of the amnion. He says, "When unconnected with a dropsical diathesis in the mother, we are disposed to regard it merely as one of the numerous diseases of the fœtus in utero, which arise independent of any disease of the uterus, or any obvious constitutional disorder in the parents, and with the causes of which we are wholly unacquainted."—It sometimes occurs in urine cases. The amount of distension varies much—as much as 50lbs. of water are said to have been evacuated. It may cause premature delivery, and in some cases has occasioned so much distress that rupture of the membrane became necessary. If the woman go to the full time, the progress of labour is retarded by the great distension of the uterus, which appears, as it were, paralysed. The remedy (rupture of the membranes) may be attended with some inconvenience, uless the os uteri be fully dilated, and the head entering the pelvis.

Puncture above the pubis has been tried (with success once); but surely this is multiplying dangerous operations wantonly, when rupturing the membranes could be performed without difficulty or danger. The child is sometimes born alive, and healthy; in other cases, it is dead and putrid. When alive, it may be affected with ascites, œdema, hydrocephalus, spina bifida, or it may be anencephalous.

2. "*Hydrallante*," or the false waters. This term is applied to an extraordinary quantity of the fluid frequently found between the amnion and chorion, occupying the place of the allantois, and which is evacuated two or three times during pregnancy without mischief (Puzos; Noortwyk; Camper; Geil; Naegelè; Dugès). It may increase the distension of the uterus somewhat, but it gives rise to no symptoms; its existence is known but by the evacuation. The diagnosis between this watery discharge, and the escape of the liq. amnii previous to an abortion is important. In the latter, there are pains, during which the discharge increases,—reduction in the volume of the uterus, with dilatation of its internal orifice—and generally a discharge of blood. None of these symptoms are observed in allantonic dropsy. The escape of this fluid should make us very watchful, and we ought to recommend rest and quietness to the patient.

distension forcing a passage for the fluid; in others the uterus is as large as at the termination of pregnancy. Blankard says that it contained 85lbs. of an ichorous and oily fluid in one case. Vesalius relates another where 180lbs. were found. Bonet goes still farther, and mentions an instance of distension to such an amount that the uterus was capable of containing a child of six years old!!

Pathology. The results of *post mortem* examinations are very different: in Dr. Thompson's case,[1] the uterus and its lining membrane were perfectly healthy; in Mr. Coley's[1] case, there was found

[1] These are two very interesting cases, which I may be allowed to quote; the first is related by Dr. A. T. Thompson, in the Medico-Chir. Trans. vol. xiii. part i. p. 170; and the second, by J. M. Coley, Esq. Bridgenorth, will be found in the Transactions of the Provincial Association, vol. 4. Dr. Thompson's case is as follows:—

"Mary Rae, æt. 65, mother of several children, was admitted into the infirmary in December, 1823; she appeared somewhat emaciated, and complained of uneasiness and pain, connected with a tumour in the abdomen, which she first perceived about six weeks prior to her admission into the infirmary in April, although from a sense of delicacy she had not mentioned it at the time. It was situated at the lower part of the abdominal cavity, rising, as it were, out of the pelvis, and occupying the iliac, hypogastric and umbilical regions. She appeared as large as if six months gone with child. An indistinct fluctuation was perceptible in the tumor, and the least pressure on it excited pain. It was suspected to be a diseased ovarium, but no examination was made *per vaginam:* nor could it be ascertained from the account the patient gave of its origin, whether it had first appeared on either side of the abdomen. The accompanying symptoms, however, denoted a greater derangement of the system than usually attends dropsy of the ovarium. These were want of appetite, considerable nausea, furred tongue, pulse quick and feeble, the bowels irregular, and the urine scanty and high-coloured. (In the beginning of March, 1824, she died, after amputation of the leg, which operation had been performed in consequence of a dry gangrene which had attacked the limb.)

"*Dissection.* The first object which presented itself, on the abdominal parietes being divided and turned aside, was a body, closely resembling the gravid uterus, occupying the whole of the pelvic cavity, and the greater part of the abdominal. Upon its anterior surface, and firmly adhering to it, was the urinary bladder, containing a small quantity of dark-coloured urine. On laying the flaps of the abdominal parietes together, the stretched bladder was found to extend to within an inch of the umbilicus; so that it must have been perforated if the trocar had been used to evacuate the fluid during the life of the patient, under the supposition that the disease was ovarian dropsy. The tumour was immediately ascertained to be the uterus greatly enlarged, and filled with fluid; it was partially sphacelated on its peritoneal covering, at the upper portion of the fundus. With regard to the other viscera, the liver was much diminished in size, and adhered to the diaphragm throughout; the gall-bladder was large and turgid with deep-coloured bile; the stomach, colon, and other intestines, with the omentum, were glued together in many places, and some were evidently in a state of sphacelation. This gangrenous appearance extended to the peritoneum in the hypochondriac region.

"On removing the diseased uterus from the body, and making an incision into it, the quantity of fluid which it contained was found to measure eight quarts; it was of a dark brown colour, and coagulated slightly when heated in a spoon over the flame of a candle. The existence of a large hydatid

the greatest degree of disorganization; both the mucous membrane and the proper tissue being in many places destroyed by "*ramol-*

within the cyst was expected; but this opinion was incorrect, the sac being merely the uterus, in the cavity of which the fluid was contained. The internal surface of the organ was not more irregular nor more spongy than in its natural state; but none of the orifices could be found, for even the os uteri was, interiorly, as completely obliterated as if it had never existed; and although its situation could be traced in the vagina, yet even there it was very faintly marked. The ovaria were small and flaccid, but otherwise natural."

Mr. Coley's case I copy from the review of the Provincial Trans. in the Medico-Chirurgical Review for October, 1836.

"May 12, 1834. A female, æt. 36, mother of two children, the youngest nine years old; had been confined to bed for four months with a tumour in the region of the uterus, attended with obstinate constipation, hectic fever, and extreme emaciation. On examination, Mr. Coley found a painful irregular tumour on the hypogastrium, resembling that produced in the uterus in the sixth month of pregnancy, exceedingly tender to the touch, hard and prominent on the left, and comparatively flattened and elastic on the right side of the abdomen. The pain she felt was of a shooting kind, constant, and varying in degree of intensity. The os uteri was sound, and a little dilated; the cervix was closed, and three-fourths of an inch long. The adjoining parts of the distended uterus, within reach of the finger, were of a stony hardness, unequal on the surface, and exquisitely tender, especially in the left side.

"The vagina also was particularly tender; and, during the last four months, afforded at intervals a dark-coloured, offensive, thick discharge, with portions of a membranous substance. Menstruation had ceased, and the breasts were enlarged and firm. From her own account, it appeared that a year and a half previously, gradual enlargement of the abdomen commenced with suppression of the menses; that she then believed herself to be pregnant; and that at the end of seven or eight months from the commencement of this state, a sudden discharge of offensive fluid, with portions of a membranous substance, proceeded from, and completely reduced, the volume of the uterus. In March, Mr. Coley saw her again, and could discover no fluctuation in the uterus, from the vagina. At the latter end of March, there was a slight hemorrhage from the vagina, preceded by the detachment of a thick piece of abnormal membrane. About the middle of May, peritonitis occurred; this was followed by purpura, and on the 15th she died.

"*Dissection; May 17th.* Extreme emaciation. Thickening of the serous membranes, and adhesion of the omentum and abdominal peritoneum to the serous coat of the uterus, especially at that part which, during life, felt so hard and irregular. Evidences of surrounding peritonitis.

"The fibrous portion or body of the uterus was so disorganised, that it was not thicker than an ox's bladder, and in some places it was altogether destroyed by an ulcerative process, which had commenced in the mucous membrane. On slight pressure being applied, the peritoneal coat at one spot, being free on both surfaces, gave way, and a thin, dark-coloured and offensive fluid, resembling that which proceeds from an ulcerated intestine, and containing portions of coagulable lymph, to the amount of three pints, escaped. The fibrous coat was quite destroyed at other parts, as well as the spot where the rupture took place; and the uterus, on being divided, collapsed like wash-leather, being generally reduced in thickness to the eighth of an inch, and having entirely lost its firmness and elasticity. In short, the principal support and figure of the organ were dependent on its indurated peritoneal coat, except at the inferior part, near the cervix.

"The whole of the internal or mucous surface of the uterus was found in

lissement." Dugès[1] mentions that the walls of the uterus are often the seat of scirrhosities, ulcers and hydatiform or polypous tumours. Evidences also of chronic metritis have been found.

We observe that all these circumstances have one tendency, at least, in common, viz. to increase the secretion from the mucous membrane, whether its normal character be preserved or changed. And this appears to be the primary pathological condition for the production of idiopathic hydrometra.

The second condition is the impermeability of the passage from the womb, which may be owing to a morbid growth blocking up the inner orifice (*Mackintosh*[2]), to obliteration of the canal (*Thompson and Coley*), or to a membrane covering the os uteri externum (*Astruc; Frank*).

Dr. Burns[3] differs from their view, and considers the disease as one large hydatid filling the uterine cavity. That this may be the case sometimes, we have the testimony of Denman, who saw a bag of the size and shape of the uterus which had been expelled from that organ after the discharge of the fluid. The same author mentions certain temporary collections of fluid which occur after childbirth, and which are evacuated before they cause much distension.

With regard to *symptomatic* hydrometra, the pathological condition giving rise to the fluid is generally sufficiently obvious, the immediate cause of the accumulation being the temporary or permanent impermeability of the cervix uteri. There is a variety of hydrometra which sometimes comes under our notice, in which the phenomena are less prominent, but of which the termination may be equally fatal; I allude to those cases where, in consequence of the condensation of the tissues of the cervix uteri in advanced life, the canal is obliterated, and an accumulation of the normal secretion takes place. No morbid action is discernible until a process of thinning the parietes at some one part (like the *pointing* of an abscess) commences, which terminates in rupture.

Causes. Very often it is impossible to discern any direct cause. In some cases a blow on the abdomen may have excited irritation in the uterus (*Frank;*[4] *Dugès*). Some authors have attributed it

a state of "*ramollissement*," or of that species of ulceration observed in the mucous coats of the intestines, in certain fatal diseases of these parts.

The cervix was obliterated, with the gelatinous secretion, peculiar to the state of utero-gestation; and the walls of the uterus, adjacent to that part, were enlarged, and consolidated with a tuberculous mass, the principal portion of which was deposited in that part which rested against the rectum, and obstructed its passage. This morbid production consisted of a uniform white structure, and was free from those radiating bands, that grisly feel, and irregular surface, discoverable in scirrhous indurations." (Med. Chir. Rev. p. 358).

[1] In loco citato.

[2] Practice of Physic, vol. ii. p. 411.

[3] Midwifery, eighth edition, p. 125.

[4] Traité de Med. Prat. traduit. du Latin, vol. iv. p. 182.

to a debility of constitution, and others to a universal serous diathesis.

Symptoms. The accumulation takes place very gradually, so that the uterus is able for some time to accommodate itself to the new circumstances in which it is placed, without the development of any remarkable symptoms. This is especially the case when it occurs in women who have had many children, or shortly after delivery. When the womb is not dilatable, as in elderly females, the symptoms of over distension are the sooner evident. In some cases of *idiopathic*, and in almost all of *symptomatic* hydrometra, it would appear possible to detect the presence of the pathological cause of the increased secretion.

After the disease has existed for some time, a tumour of the size and shape of the enlarged uterus may be perceived at the lower part of the abdomen; it feels elastic, is movable, and yields a dull sound on percussion, with a sense of fluctuation. As the accumulation increases, there is a degree of tenderness on pressure, and occasional dull pain and uneasiness in the tumour. Certain mechanical inconveniences result also; the patient finds it difficult to stoop forward, and a degree of dyspnœa is present. The menses are almost always suppressed (*Nauche; Astruc*); although Monro, in his work on dropsy, says that there are exceptions. Leucorrhœa (vaginal, of course) is sometimes present (*Mackintosh*). The urine is generally small in quantity, depositing a brick-dust sediment (*Nauche*).

Sympathetic irritation of the breasts is often excited; they enlarge and feel knotty and glandular. Nauche saw the ordinary milk fever succeed to an evacuation of the fluid of hydrometra.

At first, there appears to be but little constitutional suffering; but in the more advanced stages the contrary is observed. The pulse becomes small and quick, the skin dry and hot, the tongue furred, the appetite bad, and the bowels irregular.

The finger introduced into the vagina will easily be able to detect the tumour, and identify it with that in the abdomen; it will also recognise the diminution of the neck; but there is no evidence that the uterus contains a solid body in addition to the fluid.

The patient may die from exhaustion, in consequence of the secondary fever; or the womb, unable to dilate more, or weakened in some part by previous or present disease, may give way, and the contents escaping into the peritoneal cavity, fatal peritonitis may result immediately. This is the usual consequence of obliteration of the canal of the cervix in old women.

Diagnosis. 1. From the abdominal enlargement coincident with the suppression of the menses and the sympathetic irritation of the breasts, the disease may be easily mistaken for *pregnancy;* but the absence of fœtal movement (quickening), of stethoscopic phenomena, and of "*ballottement*," will enable us to distinguish them; and the presence in hydrometra of the constitutional symptoms I have enumerated, will remove all doubt.

Nauche adds, that the distension is more uniform, and that the uterus is rounder and softer than in pregnancy.

2. The dull sound on percussion, the fluctuation, and the greater gravity of the symptoms, will distinguish it from *physometra*.

3. *From ascites and ovarian disease*, the distinction will be founded mainly on the limited form of the tumour, its being unaffected by position, its identity with the uterus established by vaginal examination, and the minor degree of fluctuation.

4. From *scirrhous "engorgement"* of the uterus—by the fluctuation and softness of the tumour, and the absence of the nodulated surface of scirrhous.

The persistence of menstruation will rather obscure than enlighten our diagnosis.

Prognosis. From the gradual progress of the disease, the uterus becomes accustomed to the presence of the fluid, and the distress is so far lessened.

If the occlusion of the passage from the uterus be incomplete, so as to permit the occasional escape of the fluid, there is but little danger.

There is a case related by Fernel, where the fluid was discharged monthly; and one by Richard Browne (*quoted by Dugès*), in which pregnancy occurred twice with alternate accumulation and expulsion of fluid from the uterus, without any effect upon the progress of gestation.

But when the os uteri is completely closed, the prognosis is very serious; for, if the accumulation continue to increase, rupture of the uterus, and death will ultimately occur, unless relief be afforded by art.

Treatment. The *first indication* is clearly to evacuate the contents of the uterus. If this can be done by any sudden shock, as coughing, sneezing, vomiting (*Monro*), so much the better; but, if not, a canula must be passed (if possible) into the cavity, and maintained there until the uterus be emptied.[1] Should the neck be impervious, there can be but little doubt as to the propriety of puncturing it with a trocar, or an instrument like the one used by Mr. Stafford for perforating stricture of the male urethra. This operation is certainly not without danger, as metritis may result, but the situation and prospects of the patient fully authorise our running some risk.

Puncture of the uterus above the pubis has been recommended; and Wirer thus extracted 32lbs. of thick fluid from a female, æt. 53, who recovered perfectly. Nevertheless, it is a much more hazardous operation than the one previously mentioned.

After the complete evacuation of the uterus, our next object will

[1] How far the ergot might be useful in these cases I cannot say, as I am not aware of its having been given; it would, I think, be worth a trial, especially as observations lately reported would seem to prove that it can *originate* uterine contractions. The permeability of the cervix must first be ascertained, of course.

be to arrest the extraordinary secretion from the mucous membrane, or at least to prevent the re-accumulation of the fluid, no matter how produced or whence derived.

Astruc recommends for this purpose diuretics and purgatives, and we may add alteratives. Counter-irritation to the sacrum will probably be found useful. Uterine injections of mineral waters (*Astruc*), or of astringents (*Nauche, &c.*), are said to be of great use.

The general health must not be neglected. Air and exercise, when obtained without fatigue, will on this account be of great service.

Little can be done, in cases of cancerous disease, towards remedying the primary affection, but the os uteri can be kept pervious by the occasional passing of the canula, and so the distress from over distension be avoided.

It must be confessed, that many of the cases of recovery on record were but little indebted to medical treatment; the disease either subsided spontaneously and gradually, or was relieved by conception and utero-gestation.

CHAPTER XII.

MOLES, HYDATIDS, ETC.

The term *mole* has been rather vaguely applied to almost every shapeless mass which issued from the uterus, whether this proved to be coagulated blood (*Ruysch*[1]), detached tumours (*Ruysch; Manning;*[2] *Denman*), or a blighted conception. So long as this term is made to include productions so very dissimilar, all our views must be indefinite; the recent French writers have therefore rejected all such matters as those I have noted, and have given the term a more limited and intelligible signification. With them I shall divide moles into three species. 1. Blighted conceptions. 2. Fleshy moles. 3. Hydatids.

1. *Blighted or false conception*, as it is commonly called, is not intended (as has been supposed—*Manning*) to signify any imperfection in the act of generation, but merely that the vitality of the fœtus having been destroyed, the object of utero-gestation has failed.

[1] Ruysch's Observations in Surgery and Midwifery (1751), pp. 66, 73, 83, 141.

[2] Manning on female diseases (1775), p. 357. Consult, also, Lamzweerde Historia naturalis molarum uteri. 1686. Sandifort, Obs. Path. Anat. lib. ii. p. 78. Haller, Disput. Med. tom. iv. pp. 715, 745. La Motte, Traité des Accouchemens, livre 1. ch. 7. Mauriceau, Observ. sur les Accouchemens. Obs. 367. Vigarous, tom. i. p. 115. Nauche, Mal. prop. aux Femmes, vol. i. p. 183. Capuron, Mal. des Femmes. p. 268. London Med. and Phys. Journal, vol. ii. p. 122. Joerg, Krankheiten des Weibes, p. 562. Siebold's Frauenzimmerkrankheiten, vol. ii. p. 380.

In most of these blighted ova, the fœtus is altogether wanting, having been dissolved in the liquor amnii; we may, however, generally discern the remains of the umbilical cord attached to some part of the inner surface. In addition, the membranes (chorion and amnion), may be traced, with the placental development on some portion of the periphery of the ovum.

Still the whole mass will be found a good deal changed, in size, form and structure, by the effusion of blood, and the formation of coagula between the membranes; or in the placenta, by deposition of lymph, and sometimes by apparently quite new and perfect layers of membrane.[1] It is these very changes which probably caused the death of the fœtus. We can easily comprehend how very frail the tenure of life must be at an early period: we see it broken by mental or bodily shocks; by vascular or nervous irregularity; and by any deviation from normal structure, such, for instance, as a tumour at the root of the cord, or the cord being inserted where the floculi of the chorion are deficient, or into a part where the placentæ is *not*.

In this state it is seldom retained for more than two or three months, but, if not expelled, it degenerates into the fleshy mole (Boivin and Dugès[2]).

It is not always easy to distinguish a blighted ovum, which has been retained in the womb, from a recent abortion, as in the latter the fœtus may be wanting.

2. *The fleshy mole* is, in all probability, a transformation of the former species; it has become of a denser texture and more shapeless; the coagula or depositions appear to have been gradually organised. These moles may present themselves in the form of solid masses, or they may contain a central cavity possessing a distinct lining membrane, and in which there yet remains some of the liquor amnii. The obliteration of this cavity is said to be owing to the absorption of the fluid, or to its escape through some rent in the membrane (Murat[3]). The solid moles are generally much larger than the hollow ones, and of a more irregular form. Externally, they are rugged, compact and lobulated, of a circular or oval figure, and occasionally covered by a thin layer of calcareous matter (Dugés[4]). The larger ones are about the size of the two fists. If the texture be examined a little more closely, it will be found solid, but not very dense, spongy like the placenta, but more filamentous in some parts, in others consisting of fibrinous clots, and also portions of the fœtus, such as one or other extremity. The limbs of two fœtuses have occasionally, though very rarely, been discovered.

There is generally but one mole; if the conception have been

[1] See Dr. Granville's plates in his "Illustrations of Abortion."
[2] Diseases of the Uterus, p. 152.
[3] Diction. des Sciences Med. art. *Mole*.
[4] Dict. de Med. and de Chir. Prat. art. *Grossesse*.

double, and one ovum have perished, we ordinarily find the other preserved and healthy; although there are instances of two ovum moles at the same time in the uterus.[1] Manning considers them more common at the decline of life; but this is contrary to the experience of all other writers. They require to be carefully distinguished from coagula and detached polypi; and this may be done by making an incision and ascertaining the structure of each (*Denman*).[2]

There is a variety of the fleshy mole which is worthy of distinct notice. It is figured in Denman's plates; in Granville's illustrations of abortion; and there is a specimen in the museum of the College of Surgeons in this city, and another in Dr. Montgomery's museum. The texture of the ovum is much more dense than natural, especially the placental portion, which has very much lost its spongy feel; the membranes are unaltered, and when opened, the inner surface of the placental portion consists of tuberculated projections of different sizes, from a pea to a walnut. Into one of these tubercles the cord is inserted, and the fœtus in consequence has perished. The lining membrane appears quite healthy. From the slight change this ovum has undergone, we might hesitate in calling it a mole, were it not pretty evident that it has been retained in the uterus for some time after the death of the fœtus. The development of the fœtus is inferior to the volume of the ovum generally.

3. *The vesicular mole or hydatids.* The development of these hydatids may be traced very accurately. We find them in small numbers on the outside of the ovum as yet unchanged in form (Burns[3]); we may see them gradually encroaching until they obliterate the figure altogether; and they may be observed growing from the placenta or a portion of it.

This view will explain the division made by Boivin and Dugès[4] into—1. The vesicular mole, containing the embryo.[5] 2. The hollow vesicular mole, the fœtus being anencephalous or altogether shapeless; and 3. The clustered vesicular mole, where the hydatids are attached to a central part of more solid matter, as grapes are to the stalk.

The quantity of hydatids contained in the uterus varies very much, reaching to a considerable amount sometimes. When the quantity is not very great, they float in a fluid contained in the uterus, and when they form upon an ovum, the whole is enclosed in the membrana decidua. The individual hydatids vary in size from a pin's head to a grape, and in shape too, being sometimes elongated or round, but more frequently oval. According to

[1] Blundell, Diseases of Women, p. 198.
[2] Midwifery, p. 73.
[3] Midwifery, p. 123.
[4] Diseases of the Uterus, p. 158, et seq.
[5] Dubreuil. Revue Med. Novembre, 1836. Wrisberg. Nov. Comment. Gotting. tom. iv. p. 73. Leray, Nouv. Journal de Medicine, Mai, 1822.

Nauche,[1] they each possess three coats, the external serous, thin, and transparent; the middle, fibrous; and the internal, mucous. Both white and red vessels may be seen running in their surface (Nauche). They contain a fluid, which in the smaller ones is transparent, and in the larger of a straw colour; I have seen it of a beautiful pink. It is less dense than distilled water, does not turn vegetable blues red; but turns syrup of violets green; it is coagulable neither by heat nor acids. It is acqueous or gelatinous, but never albuminous (Nauche).

Formerly these hydatids were believed to have an independent existence, and were ranged amongst the acephalocysts. Pallas, Linnæus, and Percy called them Tenia hydatigena. This supposition is abandoned by all recent writers.

They are known to have remained in utero longer than the other kinds of moles. Dugès relates a case where 15lbs. weight of hydatids were discharged, which had been five or six years accumulating.

There is more danger at the time of their expulsion, than with the other species; for, as they may be discharged by instalments, the portion that remains in the uterus often keeps up the flooding which accompanies the evacuation.

Pathology. The first question with regard to these morbid growths is not merely interesting as a pathological fact, but highly important as a point in legal medicine, viz. Are they the results of conception, and consequently of sexual intercourse? With regard to many of the substances formerly included under this head, there was abundant ground for a negative answer; but, with respect to those I have described, I have rarely met with a dissentient voice among authors. Lamzweerde asserts that they cannot be produced "sine copula maris." Ruysch speaks of moles discharged from maids and old women who "have never used men"—but such were evident fibrinous clots, and of "pseudo-molæ," growing from the placenta, and, of course, subsequent to impregnation. Manning says they may be the result of abortion or of degenerated ova, but he likewise includes coagula amongst moles. Puzos speaks of them as degenerated conceptions. Denman and Burns regard the fleshy moles (excluding coagula and polypi) as most probably the result of conception, and neither hesitates a moment in attributing hydatids to this cause. Nauche denies their independent vitality, and though he generally believes them to be caused by impregnation, yet (because of the story of the "Chanoinesse," &c. vol. i. p. 191), he hesitates in assigning this as the sole cause. Capuron terms a mole, "conception degénéré." Mad. Boivin[2] states that they are degenerated ova, and always the consequence of impregnation. Dugès[3] agrees entirely with Mad. Boivin. Sir C. M. Clarke thinks

[1] Mal. propres aux Femmes, vol. i. p. 183.

[2] See essay on the Vesicular Mole, &c. or Edin. Med. and Surg. Journal, vol. xxxiv. p. 382.

[3] Dict. de Med. et de Chir. Prat. art. *Grossesse.*

that hydatids may be found without previous sexual intercourse, and Gardien takes the same view. Dr. Evory Kennedy says that "hydatids may occur in virgins."

Dr. Montgomery (*Cycl. of Pract. Med. art.* "*Signs of Pregnancy*") excludes polypi and coagula from the list of moles; and the remaining species he conceives to be always the result of impregnation. In his "Exposition of the Signs of Pregnancy," just published, p. 141, he says, "My own belief then, is, that uterine hydatids do not occur except after sexual intercourse, and as a consequence of impregnation; never having met, or heard of, a case in which their presence was not accompanied or preceded by the usual symptoms of pregnancy."

We may therefore conclude that moles—properly so called—whether blighted conceptions, fleshy moles, or hydatids, are truly consequent upon sexual intercourse and impregnation;[1] but in the practical application of this judgment to forensic medicine, we must not forget, that this does not imply criminality or impropriety in every case; as, for instance, a widow may have conceived during the lifetime of her husband; and the death of the embryo not having been followed by the expulsion of the ovum, it may remain in utero until after the death of the husband, and then be discharged, without the slightest suspicion attaching itself to her conduct.

The next question as to the pathology of these moles is, How is their transformation effected? The answers to this question are not quite satisfactory. With regard to the two first species, in which we meet with coagula of blood, from a rupture of some of the vessels of the ovum, and with false membrane and lymph, the result probably of inflammatory action, we can easily suppose these products to undergo a species of organisation, assimilating them to the parts with which they are in contact, and adding to the bulk and deformity of the whole; the amount of this change will vary according to the extent of the operation of the cause.

As to vesicular moles, there have been several theories to explain

[1] It may not be without interest to transcribe some of the conclusions arrived at by Dr. Lamzweerde, who wrote (in 1686) the "Historia naturalis molarum uteri."

"*Conclusio.* Causa efficiens primaria molarum est virtus seminis masculini, secundaria, fœminini, totalis, virtus utriusque sexus seminis unita." (p. 103.)

"Vidua non potest concipere molam virtute mariti defuncti relicta in utero, sine novo maris auxilio." (p. 176.)

"Virgines non possunt concipere vel generare molam sine copula maris." (p. 171.)

"Diabolus vel dæmon incubus non potest, virtute sibi congenita, ex semine præciso in virgine vel vidua succuba, suscitare prolem vel molam!!" (p. 258.)

"Mola potest per plures annos sine putredine jus incolatus in utero possidere, imò ad exitum vitæ." (p. 138.)

"Molarum cura potius manuali peritarum obstetricum vel chirurgorum operatione aggredienda est, quam pharmacis." (p. 153.)

"Animalium brutorum fœmellas æque molis esse obnoxias ac mulieres, sed multo rariùs." (p. 260.)

their nature and origin. Some have considered them to be acephalocysts, endowed with a very low degree of vitality, but an independent existence. Others regard them as a peculiar disease of the amnion. But certainly the most plausible theory is founded on the fact, that, if the floculi of the chorion be examined closely, there will be found minute nodules or swellings upon them. These are observed to enlarge in size, to become transparent, and to contain fluid, under certain circumstances; in short, to form true hydatids. That all probability is in favour of this view, any one may satisfy himself who will take the trouble to examine minutely the development of the vesicles upon an ovum; he may there trace their gradual increase from these very nodules up to the fully-formed hydatid.

Symptoms. For the first few months, the symptoms exactly resemble those of pregnancy. The menses are suppressed, the abdomen enlarges, the uterine tumour is distinctly felt, the breasts increase, the areolæ darken, and a thin milky or serous fluid is secreted. Salivation also occurs now and then (Nauche; Capuron). But, on the other hand, certain signs are totally wanting. There are no fœtal movements, no pulsations of the fœtal heart, and no "*ballottement.*" Pressure upon the tumour occasionally gives pain (Burns), and there is generally a serous or sanguineous discharge from the vagina (Puzos[1]). Cases are related by Hildanus and Thuillier of moles complicating pregnancy, and in such a case the presence of the mole will not be suspected.

The phenomena revealed by an *internal* examination are similar to those in pregnancy (except the "*ballottement*"), the cervix uteri is diminished in length, and the body is enlarged.

Generally speaking, the health of the patient does not suffer much disturbance, nor does the mechanical inconvenience exceed that caused by pregnancy.

At a period which is quite uncertain, the womb makes an effort to expel its contents, and the phenomena of abortion or ordinary labour occur;[2]—there is the preliminary mucous discharge from the vagina, and labour pains, with more or less hemorrhage, and, after a certain time, the mole is expelled. The examination *per vaginam*, which ought to be made, at the latest, when the flooding commences, will give rise to some suspicion, if the supposed pregnancy be far advanced; as, instead of the head, breech or

[1] Traitê des d'Accouchements, p. 211.

[2] A case of this kind has just occurred at the Western Lying-in Hospital. The patient, Ann Curwen, æt. 27, the mother of two children, and generally enjoying good health, menstruated regularly up to the end of August, 1836—the menses ceased after that time, from pregnancy, as she believed; about a month afterwards, however, she observed a slight discharge from the vagina resembling blood and water, which continued three months or more, up to Dec. 18, 1836, when she was attacked with labour pains and all the signs of abortion, except that instead of an ovum, a large basin-full of hydatids was expelled, with considerable hemorrhage. She recovered perfectly under the ordinary treatment.

extremity, a soft mass will be felt at the os uteri, which may not be mistaken for the membranes.

The *fleshy mole* will not be distinguished from an early abortion until it be examined minutely. If it be (as it sometimes is) decidedly adherent to the uterus, the case may be more serious, because the flooding will not cease till the uterus be emptied.

In some cases, milk is regularly secreted after the evacuation of the hydatids; in others a smart fever follows, with pain in the hypogastrium, requiring laxatives and fomentations (Burns).

The age at which these morbid growths generally occur, varies from the entrance upon the full performance of the sexual functions, to the cessation of menstruation. If moles be discharged after that period, we may be assured that they were generated previously.

The phenomena revealed by an internal examination are similar to those in pregnancy (except the "*ballottement*"); the cervix uteri is diminished in length, and the body is enlarged.

Diagnosis.—1. I have already stated that this disease simulates *pregnancy* very closely, but there will be found certain discrepancies—such as the duration of the abdominal swelling beyond the term of utero-gestation; the disproportion between the size of the tumour and the period since it was first observed; which, together with the absence of quickening of the "*ballottement*," and of stethoscopic phenomena, will in most cases enable us to decide as to the nature of the enlargement. Other indications have been attempted to be drawn from the state of the abdomen and of the breasts, but according to writers of equal authority, they are of little worth. There are two observations, however, which may be mentioned; Manning[1] says that the health of the female is liable to greater disorder than in pregnancy; and Nauche,[2] that the occasional hemorrhage is an important diagnostic sign.

Sir C. M. Clarke lays great stress upon the occasional irregular discharge of a colourless, inodorous, aqueous fluid, owing to the bursting of an hydatid.

In some instances, it is not until delivery that the difference is detected, and this at all events will happen where a mole and pregnancy co-exist.

2. It may be distinguished *from physometra*, by the absence of resonance, and by the greater weight of the abdomen.

3. *From hydrometra*, by the absence of the fluctuation, whether the examination be made externally or internally.

Treatment. The detection of the disease will only add to our watchfulness; for unless there be flooding, it would be by no means wise to interpose until the uterine efforts commence. If there be repeated hemorrhages to any great amount, they may be arrested by plugging the vagina, and applying cloths dipped in cold water, to the vulva. Should this be deemed too temporising, the ergot of

[1] Diseases of Women, p. 339.
[2] Mal. prop. aux. Femmes, vol. i. p. 203.

rye may be given in scruple doses; if it fail, the question of manual interference must be decided by the size of the uterine distension; if that be equal to pregnancy at seven months, the hand may be introduced, and the mole brought away; but if under that size, we run a great risk of doing more mischief by being meddlesome, than would result if the patient were left alone.

If hemorrhage should not occur during the formation of these growths, it probably will, to a considerable extent, when the uterine contractions attempt to expel them, and then the case must be treated as flooding before delivery, viz. the hand must be introduced to detach the fleshy mole, or to scoop out the hydatids.

Subsequently, a binder must be applied, and the patient managed as after ordinary labour, but with especial reference to the flooding.

CHAPTER XIII.

INFLAMMATION OF THE SUBSTANCE OF THE UNIMPREGNATED UTERUS.[1]

This disease is by no means of frequent occurrence; neither are the symptoms to which it gives rise at all so marked as might be expected.[2] It may occupy the body or cervix, or both together; it may be confined to the proper tissue of the uterus, or it may also involve the lining membrane.[3]

It scarcely ever occurs before the age of puberty, and is very rare until after marriage. Dance[4] has related a case where the uterus was extensively inflamed in a child eight years old. Burns[5] says that it is seen about the period of the cessation of the menses.

Causes. Local contusion is probably the most frequent cause; thus Waller says that the best marked case he ever saw, occurred soon after marriage, and all writers mention this period as peculiarly favourable to its production (Lee[6]).

Blows externally may give rise to it; and cold taken during menstruation, by wearing light dresses or exposure in any other way, may, by suppressing the secretion, convert the periodical congestion into active inflammation.

It has also been attributed to a long walk, or violent exertion during menstruation.

Symptoms. If the attack be *acute*, it may commence by rigors, succeeded by feverishness; then some heat and uneasiness will be

[1] Inflammation of the womb after delivery, will be described under "Diseases of the puerperal state."

[2] Clarke on Diseases of Females, vol. ii. p. 29.

[3] Nauche, Mal. prop. aux Femmes, vol. i. p. 315.

[4] Archives Gen. de Med. Octobre, 1829.

[5] Midwifery, p. 96.

[6] Cyclop. of Pract. Med. art. Pathology of the Uterus. See also Duparcque, Traitè thèorique et pratique, &c. p. 159; Lisfranc, Mal de l'Uterus, p. 300.

felt in the pelvic region, and occasional paroxysms of sharp pain in the back, darting through to the symphysis pubis, and down to the groins and thighs (Clarke). The ordinary dull pain is less severe, but constant, greatly increased by coughing or sneezing, and occasionally accompanied by a sensation of bearing down (Burns).

If slight pressure be made upon the abdomen, there is no increase of pain, but if deep pressure down towards the brim of the pelvis be made, the suffering is considerable. Under ordinary circumstances, the bony pelvis affords protection to the enlarged and sensitive uterus. An *internal* examination will reveal an increase of size in the womb, which is often somewhat depressed in the pelvis, and it will identify the tumour in the pelvis with the one in the abdomen. Pain will be experienced on pressing the cervix, particularly at some one point (Burns).

The os uteri is generally more open than natural, and will be found in the back part of the pelvis.

In some cases the menses are not suppressed, or at least for some time; and these patients experience a great aggravation of their sufferings at each monthly period. In others the uterine function is entirely arrested. Occasionally there is a slight mucous discharge.

The constitutional disturbance varies very much; it is seldom that we see much fever; the pulse may be somewhat quicker than usual, but very often it is unaffected (Waller). It is sometimes feeble (Burns).

The state of the skin is generally answerable to the pulse; when this is quick, the skin is hot and dry, and when feeble and slow, the skin is cool.

When the fever is marked, the patient sometimes complains of pain above the orbit, dimness of sight, or partial deafness (Murat; Capuron; Boivin & Dugès[1]).

The local irritation after a while is propagated to the neighbouring organs; the rectum, vagina, urethra, and bladder, all participate. The fæces and urine are discharged with considerable pain and difficulty.

Distant sympathies are also excited; the breasts swell, and become painful (Nauche;[2] Capuron[3]); the stomach becomes irritable; nausea, and even vomiting, are not unfrequent; the appetite is diminished; the digestion is impaired; the bowels become constipated; and the general health suffers very much. Sitting up occasionally causes fainting.

Burns mentions that retroversion or anteversion may take place, and we shall see subsequently that this is by no means improbable. Of course, such an occurrence will be marked by the appropriate symptoms.

[1] Heming's Trans. p. 316.
[2] Mal. prop. aux femmes, vol. i. p. 318.
[3] Mal. des Femmes, p. 131.

Inflammation of the womb is sometimes, but rarely, fatal.

Such are the principal symptoms which have been noted in the *acute* form of the disease; the *chronic* form differs from it chiefly in the minor intensity of the symptoms. It is often very insidious, giving little evidence of its presence: there may be a dull pain in the lower part of the abdomen, some depression of the uterus, and a mucous discharge. The derangement of the digestive organs —vomiting, loss of appetite, &c.—is generally present; and indeed may lead us to suppose these organs to be the parts primarily affected.

Menstruation is more or less disturbed; and if the disease continues, it will be suppressed.

The evacuation of urine and fæces is attended with pain and inconvenience.

There is generally very little constitutional suffering—the pulse is soft, scarcely quicker than usual, but easily accelerated.

The duration of this form varies much; it may, however, continue for a long time. In itself it does not prove fatal, though its consequences may be serious.

Terminations. It would appear from the testimony of authors, that inflammation of the uterus frequently terminates in resolution. That it does not degenerate into cancer, as formerly supposed, may be considered as decided. There are other pathological conditions, however, which, though rare, deserve notice as consequent upon inflammation of the organ.

1. *Hypertrophy or induration*,[1] which appears to consist either in a temporary enlargement, probably from afflux of fluids, or in a permanent augmentation of the tissue of the womb itself, which may thus be vastly increased in size. If a section be made, the texture will be found more or less firm, according as the induration is temporary or permanent, and of a reddish or grayish colour. The surface is smooth and uniform. This augmentation of volume gives rise to certain mechanical symptoms, owing to its pressure on the bladder and rectum, and to the depression of the uterus.

2. *Ramollissement.* That hysteritis may thus terminate, is not to be questioned. Dr. Burns[2] says, "Sometimes, as a consequence of inflammation, more or less distinctly marked, but occasionally

[1] "With this state," says Dr. Hooper, "the whole of the uterus is of a preternatural size, more especially the body of the uterus, without any other morbid or unnatural appearance; and this increase of size is caused by an unusual formation of the healthy structure of the organ. With regard to the extent of this unnatural occurrence, I have found the uterus more than twice the usual size; and this may be considered as the mean or most common size in hypertrophy; but it is sometimes much larger." He describes hypertrophy with hardness, and hypertrophy with softness, but does not expressly state that either results from inflammation. (Morbid Anatomy of the Human Uterus, p. 5.) See also Duparcque, p. 188, et seq; Lisfranc, p. 300 and 310.

[2] Midwifery, p. 97.

without any very distinct indication of uterine disease, we find part or the whole of the womb softened, and its substance very easily torn. A modification of this "ramollissement" has been described as affecting the neck, rather than the body of the uterus, and converting it into a black and fetid putrilage."

More recently, M. Duparcque has observed, "The autopsy of females who have died of metritis (acute), shows the tissue of the uterus swollen, reddish black, softened, friable; the blood with which it is engorged is mixed with a puriform or serous fluid: we find also, here and there, small collections of pus or larger abscesses."—"Lastly, we meet some parts black "*putrilagineuses*," and evidently gangrenous."

The fetor spoken of, however, is by no means a necessary or usual accompaniment of "softening."

3. *Abscess.* Though rare, except in the hysteritis following delivery, yet examples of suppuration of the uterus are on record (Mariceau; Van Swieten; La Motte, &c. &c.)

Mr. Howship has a preparation of a uterus, in the walls of which there is an abscess which contained an ounce of pus. The collection may also take place in the cavity,[1] and the purulent matter may escape through the vagina into the rectum, peritoneum, or into the cellular tissue of the pelvis (Astruc; Capuron, &c.) It generally gives rise to some fever; and its evacuation may be attended with danger and death.

4. *Gangrene or Sphacelus.*[2] This occurs very rarely, but, when it does, it is of course fatal (Duparcque). It is, perhaps, impossible to detect this termination before the death of the patient. The cessation of pain and the fetid discharge may take place from so many causes, independent of gangrene.

Diagnosis. It may be distinguished—1. *From scirrhous of the womb*, by the pain, heat, fever, and tenderness on pressure.

[1] And may co-exist with closure of the uterine orifice. See paper by Dr. J. Clarke in the Trans. of a Society for the improvement of Medical and Surgical knowledge, vol. iii. p. 560.

[2] Astruc says that gangrene or sphacelus never happens to the uterus or vagina but in one of these cases. "1. In violent inflammations which attack these parts; and then it is generally in the height of the inflammation that the gangrene and sphacelus come on, i. e. from the third or fourth day of the disease, to the seventh or eighth. 2. In *descensus* of the uterus, when the part which is fallen to the outside, remains a long time in such state, which can only be that of compression and strangulation. 3. In the phagedenic ulcers, which corrode the internal surface of the uterus or vagina." The gangrene may affect the whole body of the uterus, but this is rare, it is more generally confined to the neck. In these cases, "The pulse is low, quick, concentrated; the patients are seized with shiverings, startings, and even convulsive shakings of the body without any apparent cause; and at the same time that they cease to feel any pain in the uterus, or but a less degree, they fall into a state of oppression or extraordinary uneasiness, which is but little short of fainting, and the extremities become so cold, that scarcely any warmth can be excited in them." (Dis. of Women, vol. ii. pp. 35 and 36.)

2. *From cancer*, by the absence of ulceration.

3. From the uneasiness and difficulty attendant on evacuating the bladder and rectum, the complaint might be mistaken for *inflammation of those viscera*, but an *internal* examination will reveal the real nature of the disease.

4. A thorough investigation into all the symptoms, will prevent our treating the gastric irritation as the sole or principal malady.

Treatment. Much of the activity of the treatment will depend upon the *acute* or *chronic* character of the attack, and upon the constitution of the patient. Venesection will only be necessary where there is fever (Burns). Cupping the loins, or leeches to the vulva or anus, to be repeated if necessary, are preferable (Waller; Burns; Clarke). We can even apply leeches directly to the uterus itself by means of the speculum, and this is advised by Guibourt and Duparcque. Punctures of the uterus, are recommended by Dujarrie Lasserve.

In *acute* cases, after the employment of antiphlogistics, and in all *chronic* cases, much benefit may be anticipated from counter-irritation, either by the insertion of a seton (M. Hall; Heming), or by a succession of blisters to the loins. A hip-bath should be frequently used, and vaginal injections of bland mucilaginous fluids thrown up, twice or three times a day. Cooling and anodyne enemeta have been recommended (Astruc). Mr. Stewart[1] even prefers them to the vaginal injections. Externally, fomentations (e. g. decoction of poppy heads, with a small quantity of laudanum), are highly beneficial, and at a more advanced stage, embrocations to the loins.

As to internal medicines, probably our surest reliance is upon calomel and opium, given so as to affect the system, and with more or less rapidity according to the urgency of the case. Should diarrhœa render the continued employment of the calomel impossible, the opium may be given alone. It is better not to administer purgatives until after the subsidence of the inflammation, as the action of the bowels aggravates the pain. Waller prefers saline purgatives with diaphoretics, to all others. Small doses of antimony may be given in saline draughts with three or four drops of laudanum, or a dram of the syrup of poppies (Burns). Diuretics have also been recommended.

The diet should be light, yet nourishing. The patient should sleep on a hard bed, and apart from her husband.

In chronic cases, when permanent thickening of the uterine parietes or hypertrophy has taken place, both general and local means for promoting absorption should be employed. Great benefit may be expected from the use of iodine in such cases. I have lately seen a case of this kind with Mr. Burke, in which the prolonged exhibition of this remedy was followed by a very decided diminution in the volume of the cervix.

[1] Med. Chirur. Trans. vol. v. p. 154.

CHAPTER XIV.

SIMPLE ULCERATION OF THE CERVIX UTERI.[1]

Inflammation of the womb generally, has, in the last chapter, been described as a rare disease; but there is a partial inflammation, which, with its consequences, is much more frequent. I refer to the inflammation limited in the first instance to the cervix uteri, and followed by simple ulceration. It is true, that we are rarely called to see these cases until the ulcerative process has somewhat advanced, for it is then only, that the symptoms become so marked as to excite the fears of the patient.

The disease does not appear to be influenced by temperament; it may also occur at any age after the establishment of menstruation, and the development of uterine activity, though it is very much more frequent after sexual intercourse has exposed the uterus to additional irritation. That the ulceration is mainly confined to the cervix, is probably owing to the greater degree of injury from shocks, &c., to which this part is exposed; and, as we might expect, it is observed that prostitutes are particularly obnoxious to attacks of this kind.

Causes. In addition to violence applied to the os and cervix uteri, inflammation and ulceration may be caused by cold, (especially during menstruation) astringent injections, introduction of foreign bodies, &c.

Symptoms. During the inflammaotry stage, before ulceration has commenced, we find occasional shivering, with flashes of heat, especially in the face—a dull pain and sensation of dragging is felt in the loins, and a weight at the anus. Astruc mentions, that the pain is increased at the approach of each menstrual period.

[1] After describing "Corroding Ulcer," Mr. Burns observes, "There is another kind of ulcer which attacks the cervix and os uteri. It is hollow, glossy and smooth, with hard margins, and the cervix a little beyond it is indurated and somewhat enlarged, but the rest of the uterus is healthy. The discharge is serous or sometimes purulent. The pain is pretty constant; and the progress is generally slow, though it ultimately proves fatal by hectic. In this and all other diseases of the uterus, the morbid irritation generally excites leucorrhœa in a greater or less degree; but examination ascertains the morbid condition of the part." Topical bleeding, saline purgation, mercurials, with sarsaparilla, iodine, &c. sometimes have a slightly beneficial effect. (Midwifery, p. 102.)

In his clinical lectures, M. Dupuytren made the following remarks upon this disease. "Mucous ulceration of the cervix uteri may be easily overlooked if we proceed no further than to an examination with the finger; it might thus be taken for deep-seated cancer; but the use of the speculum will readily lead to a discovery of the present affection. The cervix and os uteri being received into the upper part of the speculum, a superficial ulceration is perceived on one or other of the labia of the os uteri, as red as a cut surface, not deeper than the mucous membrane; resembling that ulceration of the nose called ozœna, and occasioning, if not remedied, fatal results." Boivin and Dugès, p. 367.

Frequently a degree of heat, or burning in the lower belly, or itching of the external parts (Duparcque, Lisfranc), is complained of, and occasionally the abdomen appears swollen. The presence of leucorrhœa is uncertain (Jobert); towards the end of this stage it may now and then be observed.

It is scarcely necessary to state, that sexual intercourse is attended with severe pain.

These symptoms are present in most cases, and no change takes place in them, so as to mark the occurrence of ulceration: so far, however, from being mitigated, it is found that all are greatly aggravated. Occasionally, a slight sanguineous discharge takes place, recurring at intervals.

If the finger be introduced into the vagina before ulceration takes place, the cervix uteri will be found more or less swollen and spongy, with an increase of the natural heat. Pressure causes considerable pain. The os uteri is rather more open than usual.

If the ulceration be superficial, there is some danger of our passing it over, unless the finger be passed slightly and carefully over the surface. If deeper, some roughness and a degree of depression will be felt, limited, either by a regular and well defined edge, or by an irregular one—the latter, according to Ricord and Delmas, being very often syphilitic. The discharge on the finger when withdrawn, is generally yellow or dirty white, occasionally streaked with blood, but without fetor.

The additional light afforded by the use of the speculum in simple ulceration of the cervix, is of considerable value. It will be found that the ulcerations are often numerous and of a small size at the beginning, but that they coalesce as the disease advances. They vary in size from a pin's head to a shilling. The surface is generally reddish, and most frequently the edges well defined.

The depth will vary according to the stage of the disease at which an examination is made. They may be very shallow, little more than erosions[1] in fact; or they may involve the whole substance of the cervix. Their form and the direction they take is quite uncertain; in some instances, the circle of the lower part of the cervix is regularly destroyed; in others, an irregular groove is found in its substance, or the anterior or posterior half may be alone affected.

Pathology. From the symptoms and the evidence afforded by a vaginal examination at an early period of the attack, there can

[1] "This ulceration is superficial, and appears to have only destroyed the epithelium or mucous layer covering the neck of the womb. It may extend superficially over the half of the os uteri, or it may be less extensive and more profound; in no case does the part where it is situated offer more engorgement that is necessarily caused by the inflammation which accompanies the ulceration. The edges are irregular, red, and but little prominent; its surface is smooth, covered with a yellow layer; or finely granulated, and then more or less vividly red; there exudes from it a puriform, filamentous, and sometimes sanguinolent fluid." Duparcque, Traitè thèorique et pratique, &c. p. 364. See also Lisfranc, Mal. de l'Uterus, p. 353.

be no doubt that the disease consists essentially of inflammation, running into ulceration, not of a malignant character. Whether the conversion of a simple ulceration of the cervix into a case of corroding ulcer ever occur, it is at present impossible to decide; and equally so as to what constitutes the essential difference between them. All we know is, that one is amenable to treatment and comparatively of trifling moment, whilst the other runs on to a fatal termination, in despite of all our efforts.

Diagnosis. 1. If the observations of Ricord and Delmas are to be depended upon, the regular and well defined edges of simple ulceration will suffice to distinguish it from the irregular boundaries of *syphilitic ulcers.* The yellow discharge, so common an accompaniment of the venereal affection, is absent in the disease under consideration; and additional evidence may be gathered from the moral character of the individual.

2. It may also be distinguished from "*corroding ulcer,*" by its being more superficial and of more limited extent; by the slighter local and constitutional symptoms; by the absence of the large hemorrhages; and by the inodorous discharge.

3. From *cancerous ulceration,* by the entire absence of morbid deposition, and the consequent mobility of the uterus; by the absence of fetid discharge; and by the character of the pain.

Treatment. The stage of the disease must determine the remedies to be employed. If we are fortunate enough to see the patient during the inflammatory stage, we may hope by active measures to anticipate the ulceration. A fair quantity of blood, (from ʒx. to ʒxx.) may be taken from the loins by cupping; or leeches may be applied to the vulva, or (by means of the speculum) to the cervix uteri. Great benefit is frequently derived from this latter mode of local blood-letting.

This should be followed by hip baths and emollient vaginal injections; by which means, aided by mild laxatives, we may hope to lessen the tenderness and swelling of the cervix; and when this is done, counter-irritation may be produced by blisters, &c., to the sacrum.

If ulceration have set in, we may find it necessary to throw up a few emollient vaginal injections, before proceeding more actively to work. Then we may try astringent injections, especially if the ulcer be very superficial. Astringent ointments have been applied to the diseased part directly, by means of the speculum. Picard cured some simple cases by thus using the ung. plumb. acet. and some syphilitic ones with the ung. hydrarg.

If the disease have made some progress, or, if it resist milder remedies, it will be necessary to cauterise the ulcerated surface. This can be done either by fluid injections into the vagina, or directly by means of the speculum. There is one disadvantage attending the former, viz. that the caustic is applied where it is not needed; and if it be of great strength, some inconvenience may result: this is avoided by using the speculum, with the additional

advantage of being able to use either solid or fluid caustics, and to apply them exactly to the points which most need them.[1]

Jobert and Marjolin have been very successful in their management of these cases; they apply the pernitrate of mercury to the ulcer by means of a camel-hair pencil, and repeat it as often as may be necessary. Occasionally a slight discharge of blood may follow the operation, but it is never of any consequence.

The butter of antimony; the "potassa cum calce" or the solid nitrate of silver[2] may be used, according as one or the other may be deemed more suitable.

A hip bath may be useful, by lessening any irritation which may be present. The bowels must be kept free, because the passage of hardened fæces causes much pain, but purging should be avoided, lest the irritation be propagated from the rectum to the uterus.

Madame Boivin recommends the internal exhibition of sarsaparilla; I believe, however, that there are very few cases where internal remedies are of use. The general health (independent of the ulcer of the uterus) may be in a state to require medicines, and of course those which are necessary should be given, but it is to the local applications that we must look for the cure of the uterine disease.

Should these remedies fail, are we under any circumstances to excise the neck of the uterus? Before the publication of M. Lisfranc's book, it would have required some hardihood to have opposed "so simple and safe an operation." But since the exposure of the professor's mis-statements by M. Pauly, the operation has a good chance of being rejected altogether. Possibly each opinion is in the extreme, and neither quite correct. It is undoubtedly a formidable and dangerous undertaking; but, for all that, I am not prepared to say that there are not cases where it ought to be tried, as affording an additional chance of life to the patient. As to the merits and demerits of the operation, with the mode of performing it, I must defer considering them until treating of extirpation of the uterus in cancerous cases—merely observing, at present, that the simple nature of the disease under consideration, and the absence

[1] M. Lisfranc has stated the following circumstances as forbidding the application of caustic. 1. He defers it if there be much "engorgement" of the uterus. 2. If there be inflammation of the vagina or of the cervix uteri, or even if the patient suffer severe pain.

3. The caustic is not to be applied within 4 or 5 days of the appearance of the menses, nor for 3 or 4 days afterwards.

The caustic is applied by means of the speculum, carefully introduced, the cervix first being cleaned from mucous by means of a camel-hair pencil. M. Lisfranc prefers the protonitrate of mercury as a caustic to all other. It has succeeded much better in his hands than the nitrate of silver. Lisfranc, Mal. de l'Uterus, p. 338. Dr. Cancoin has recommended the chloride of zinc, which possesses, he says, the advantage of forming a dry eschar. See Lisfranc, p. 345, *note by M. Pauly.*

[2] See Dr. Hannay's paper on the application of the nitrate of silver to ulcers of the cervix uteri, in Med. Gazette for May 6, 1837.

of morbid deposition into the surrounding tissue, offers in my opinion a better prospect of success, than when the womb is the subject of the more malignant affections.

CHAPTER XV.

TUMOURS OF THE UTERUS.

Under this head it is proposed to investigate all the more dense morbid growths, which have little or no influence upon the constitution from the peculiarity of their structure, but whose effects are principally mechanical, which do not ulcerate,[1] and are not malignant.

The only division I think it necessary to make, is into those which have a pedicle and those which have not. The symptoms, consequences, and treatment of these two classes vary much, even though in structure the tumours may be identical.

Let us, then, first consider the *Non-pediculated Tumours* of the uterus, or, as they are ordinarily called, *Fleshy and Fibrous Tumours.*

These are by no means unfrequent after the age of 40, though rather so previously, and their presence is as frequent in unmarried as in married females; indeed, Bayle (*Dict. des Scien. Med.*) thinks them rather more common in virgins. He asserts that one out of every five old women has them. Out of 20 uteri examined by Portal, he discovered fibrous tumours in 13. Sir C. M. Clarke has never met with them in females before the age of 20 years.

They are found of all sizes (Bayle; Baillie), from that of an almond to that of a man's head. Gualtier de Claubry met with one weighing 39lbs.; another, which projected externally by a pedicle of an inch thick from the fundus, weighed 40lbs., was 46 inches in circumference, and 13 in diameter, is described by Kummer.[2]

It would not be difficult to multiply examples, but it is more important to observe that the consequences of such tumours are not always in proportion to their size.

The tumours may be single, or they may consist of a congeries of smaller tumours, each with its own capsule, but agglomerated so as to form apparently one large mass, which may render an investigation for other purposes difficult.[3]

These tumours may either be embedded in the uterine parietes, or they may be immediately behind the serous or mucous membranes: of course, in the latter case, they will project internally or externally, causing a considerable alteration in the figure of the

[1] Burns' Midwifery, p. 110. Waller's Edit. of Denman, p. 80.
[2] See Quarterly Journal, Oct. 1822.
[3] Clarke on Diseases of Females, vol. i. p. 208.

womb, and a diminution in its capacity. It is very rarely that they commence near the cervix (Burns; Clarke).

Pathology. The structure of these tumours varies much. Some of them, when cut into, exhibit a fleshy texture, with slight interlacing of fibrous lines; these are the softest of this kind of morbid growth, and were called fleshy tubercles by Hunter and Baillie. Others have been described of a more red and vascular structure, resembling very much that of the uterus.

But those which are ordinarily met with are much harder and more dense. They are composed of a white or gray fibrous tissue, with cellular areolæ. Here and there portions may be detected softer or harder than the general mass. Some of these harder portions consist of calcareous matter, which has recently been analysed by Doctors Turner and Bostock. The former found it to consist of carbonate of lime and animal matter; but the researches of the latter chemist have discovered a greater variety of component substances. In three cases, he found phosphate and carbonate of lime with animal matter; in three others, phosphate, carbonate, and sulphate of lime with albumino-cerous matter. The proportions of these constituent parts varied a good deal.[1]

When the substance is cut into, the surfaces may be dull or resplendent, intersected irregularly with numerous white lines, and here and there resembling divided cartilage.

Occasionally, a large vessel may be discovered, generally on the surface of the tumour, but far more frequently there are none to be seen.

According to Sir C. Clarke and others, injections cannot be made to penetrate their substance.[2]

If they be examined exteriorly a little more minutely, it will be found that they receive a more or less perfect covering of the uterine fibres. Sometimes the tumour is entirely enveloped in them, at others, only that portion nearest to the uterus. We shall find this an important consideration in those tumours, which, by

[1] See Dr. Lee's admirable paper on fibrous tumours of the uterus, in the Medico-Chir. Trans. vol. 19; Mackintosh, Pract. of Physic, vol. ii. p. 409: Cruveilhier, Anat. Pathol. Liv. 13, pl. 4.

Burns says, "Sometimes the whole uterus is a little enlarged, and changed into a white cartilaginous substance, with a hard irregular surface, or it may be enlarged and ossified . . . . . "Steatomatous or atheromatous tumours of various sizes, or sarcomatous or scirrhus-like bodies, may be attached to the uterus." (*Midwifery*, p. 112.)

Again, p. 114, "Earthy concretions are sometimes formed in the cavity of the uterus, and produce the usual symptoms of uterine irritation. This disease is very rare." And in a note, "Gaubius relates a case where it was complicated with prolapsus uteri. After a length of time, severe pains came on, and in an hour a large stone was expelled; next day a larger stone presented, but could not be brought away until the os uteri was dilated. From time to time after this, small stones were expelled, but at last she got completely well."

[2] Clarke on Diseases of Females, vol. i. p. 169.

natural growth, or by force of compression, assume the form of polypi.

The shape of the tumours will depend very much upon their situation; those which encroach upon the cavity of the womb, for instance, will be modified by the pressure of its parietes;—we may find them round, angular, or conical, and sometimes lobated (Clarke).

Various theories have been broached to explain their formation. By some they are regarded simply as lesions of nutrition, and by others they are considered as a species of concretion around a nucleus of coagulated blood or pus.

Authors are now pretty well agreed as to the progressive changes which take place in these tumours. Dr. Baillie, in 1787, suspected that the calcareous concretions discharged from the uterus, originated as fibrous tumours, and the researches of Bayle, Bichat, Knox, Breschat, and Andral, confirm this view.[1] We may therefore regard those morbid growths which present a gradual increase in density, as the same species of tumour in different stages, commencing with the fleshy, soft structure, and terminating in the calcareous concretions which have been noticed by many authors.[2]

These changes take place somewhat irregularly, so that it is not unusual to find different portions of a tumour in different stages of progress. Some parts will be found soft and fleshy, other cartilaginous, and others again will present calcareous particles.

These calcareous particles are generally deposited in the more dense portion of the tumour, but they have been found on the external surface, forming a complete shell.

It is generally found that the smaller tumours are the more advanced.

They are most frequently solid, but examples of hollow ones are on record.

In a very few instances, inflammation has taken place in the covering of the tumour, and superficial erosions or ulcerations have followed; but, as a general rule, it may be stated that fibrous or

[1] See Dr. Lee's paper in Med. Chir. Trans. vol. 19.

[2] Waller's Edit. of Denman, p. 80. Burns' Midwifery, p. 110.

"According to Bayle, fibrous bodies are observed to increase gradually in consistence, from their first sarcomatous form to their last stage of osseous concretion. To this it might be replied, that the least considerable of these tumours are fibrous, cartilaginous, osseous. But here we shall answer with Bayle, that amongst the sarcomatous tumours, there are some which have a tendency at once to maintain a soft consistence and to increase in size, and that it is principally these which acquire those considerable dimensions spoken of above, tending also to reach the surface, and to become pediculated. Others, on the contrary, with less tendency to increased volume, acquire rapidly a greater consistence: thus it appears that the smallest are those which harden most rapidly, or it may be said that the early indication checks all further increase. The condensation of the tumour is not so gradual as to present all its parts cartilaginous or osseous, simultaneously: ossification sometimes begins at the centre, though more generally in a great variety of parts." Boivin and Dugès, Diseases of the Uterus, &c. p. 181.

fibro-cartilaginous tumours of the uterus are not liable to ulceration.

Causes. The causes are extremely obscure, and probably are to be found in the temperament of the patient, her age, and the anatomical peculiarities of the uterus (see page 52).

They are most frequent in persons of the lymphatic temperament, and in those who have passed the middle age.

Women who have never borne children are more obnoxious to them than those who have been mothers.

De Haen supposes that contusion may be a predisposing cause of these morbid growths.

Symptoms. As it is extremely rare to find these tumours attacked by inflammation or ulceration, the symptoms are either mechanical or owing to the interruption of the uterine functions,[1] or to the sympathies excited in distant organs.

The patient will complain, in most cases, of a weight in the pelvis, of bearing down, and aching in the loins.

If the tumour be large, inconvenient pressure may be made upon the bladder or rectum, impeding the evacuation of their contents, at the same time that the desire to void urine or fæces is distressingly frequent. Cramps in the thighs and legs may occur, or the lower extremities may become œdematous.

If the tumour be large, and situated near the fundus on the outside, it may give rise to retroversion of the womb (Clarke). A case of this kind was admitted into the Meath Hospital about a year ago.

The presence of these tumours very frequently interferes with the menstrual function. In many cases I have known it to become very irregular, and in several it was altogether suppressed.

Lee says that menorrhagia occasionally occurs.

Further, although conception may take place, utero-gestation is very frequently interrupted at the third or fourth month, and abortion occurs, probably owing to the difficulty of distending the uterus, or perhaps to the imperfect circulation occasioning inefficient nutrition.

Lastly, if the labour come on at the full term, there is some danger of flooding, owing to the incomplete contraction of the uterus.[2]

Hemorrhages rarely occur so long as the tumour is not pediculated, although we occasionally meet with them.

The natural mucus is considerably increased in quantity, but unaltered in quality.

In some rare cases, where the uterus has been much distended, the

[1] Waller's Edit. of Denman, p. 80. Clarke on Dis. of Females, vol. i. p. 273.

[2] Such cases occurred to Mad. Boivin, Chaussier and D'Outrepont. See Bulletin de la Faculté de Med. Feb. 1823, and the Archives de Med. May, 1830.

mammary sympathies have been much excited, and the breasts have been swollen.

It is very rare, indeed, that there is any constitutional disturbance, except perhaps as secondary to the functional derangement. There may be some degree of emaciation.

If the patient be thin, a careful manipulation of the abdomen may detect a tumour in the region of the uterus, and we may thus sometimes estimate its size and density. When the tumour is situated in the lower part of the uterus, a vaginal examination[1] will reveal its situation, size, and density. We shall find it covered by a smooth membrane, without any breach of surface, and insensible to pressure.

If the two modes of examination be conjoined, we shall perceive the identity of the uterine enlargement, since by depressing the tumour felt in the abdomen, a shock will be communicated to the finger in the vagina.

The growth of these tumours is extremely slow; months may elapse without apparent increase, and years without the slightest inconvenience.

Whilst speaking of their freedom from ulceration, &c. generally, it must be mentioned, that the investing membrane has occasionally been attacked with inflammation without the participation of the new structure (Clarke), and also that other and more formidable diseases may co-exist. Sir C. Clarke mentions a case where corroding ulcer of the uterus and dropsy of the ovary were superadded to fibrous tumours. Dr. M. Hall relates a case where fibrous tumours, co-existing with pregnancy, were attacked by inflammation.[2]

Diagnosis.—1. *From pregnancy.* Although the sympathetic irritation of the breasts, and tumour in the uterine region, &c. may render the case doubtful at first, yet a little further investigation, by showing the absence of all the other "signs," will prevent any mistake.

2. *From congestion and induration*, it may be distinguished by the tumour being insensible, well-defined, and harder.

3. *From scirrhus or carcinoma*, by the more partial and better defined character of the tumour, occasionally by its greater volume, by the absence of pain, hemorrhage, and sensibility.

4. *From polypus uteri*, generally by the absence of shedding, and, if the tumour be within reach, by there being no pedicle.[3]

[1] Clarke says (vol. i. p. 274), "If an examination be made, a hard, large, resisting tumour may be felt; but the os uteri will have undergone no change; the opening will not gape as in carcinoma; neither will the patient complain of pain when the tumour is pressed upon."

[2] Principles of Diagnosis, 2nd edit. p. 307.

[3] If a polypus be enclosed in the cavity of the uterus, all the signs of fibrous tumour will be present, with hemorrhage, but no special indication of polypus. In process of time, however, the polypus will be forced through the os uteri, and its progress indicated by the descent of the tumour, and the gradual obliteration of the cervix uteri.

5. *From ovarian disease*, by a conjoined abdominal and vaginal examination, establishing the identity of the enlargement; no depression is felt by the finger in the vagina on pressure of the abdominal tumour, where the latter is an enlargement of the ovary. There is also more hardness, less mobility, and less constitutional irritation.

Treatment. If the health be undisturbed, and if the size of the tumour be not such as to impede the functions of some neighbouring organ, nothing need be attempted in the way of medical treatment.

The patient should be careful of incurring any risk of inflammation from injury, &c.; and all reasonable attention should be paid to the general health. Any symptoms may be met as they arise, and the principal mechanical inconveniences will be avoided or obviated, by securing the regular evacuation of the rectum and bladder. If catheterism be necessary, a little management will be required in the introduction of the instrument. An elastic gum male catheter is the best, both from its length and flexibility. It will often be necessary to have the stilette very much curved at the end.

The cramps may sometimes be relieved by a change of posture, and, if possible, it may be well to adopt Sir C. Clarke's suggestion, and push the tumour above the brim of the pelvis.[1]

If there be any indications of congestion or local irritation, a few ounces of blood may be taken by cupping the loins, or by leeches to the vulva. Relief has also been found from frictions of the abdomen, with soap liniment and laudanum. It will not be necessary to interfere with the vaginal discharge, unless it be very profuse, in which case mild astringent injections will answer the purpose perfectly.

Hitherto our attention has been occupied by palliative measures alone, whether more than this can be effected, may perhaps, be a question. We know that such tumours have been absorbed spontaneously,[2] and as we know, also, that certain medicines have the power of quickening absorption, it is not unreasonable to expect that a judicious administration of such may be followed by success. The two remedies upon which most reliance can be placed are mercurials in small doses, with frictions to the abdomen or flying blisters, and iodine. Well ascertained facts are extremely scarce. Some cases under my care seemed to have been benefited by the former plan; but, as they were dispensary patients, that very circumstance caused them to cease their attendance, and I lost sight of them. Dr. Ashwell[3] has published some very interesting

[1] Diseases of Females, vol. i. p. 277.

[2] Clarke, Diseases of Females, vol. i. p. 276.

[3] Guy's Hospital Reports—Paper "on hard tumours of the uterus, treated by iodine, by Dr. Ashwell."

The tumours were hard and not ulcerated; some entirely disappeared, others nearly so. The iodine was given internally and applied to the cervix

investigations into the effects of iodine upon uterine tumours; but their value is lessened by the extreme caution of the author in not defining the nature of the tumour.

In some few cases tonics may be necessary.[1]

CHAPTER XVI.

2. PEDICULATED TUMOUR, OR POLYPUS OF THE UTERUS.

These morbid productions are distinguished from those in the preceding chapter, not so much by a difference in structure as by their difference of form, and the series of important symptoms thence resulting: and, like the preceding, they are probably of much greater frequency than has been suspected (Gooch).

Instead of being embedded in the substance of the uterus, the

by the finger, sponge, or whalebone, every night. R. The ointment is thus composed, Iodini puri. gr. xv; potas. hydriod. ʒii. ung. cetacei. ʒii. M. The average time for resolution was from 16 to 18 weeks. In addition, benefit was derived from cupping the loins, mild unstimulating diet, gentle aperients, and narcotic injections into the vagina.

Dr. Ashwell's inferences from his cases are as follow:—

"First—The internal administration of iodine, and its use by inunction, in hard growths or tumours of the uterus, *is decidedly beneficial;* the advantage, if the remedy be judiciously employed, *being unattended by constitutional injury.*

Secondly—In hard tumours of the walls or cavity of the uterus, *resolution or disappearance is scarcely to be expected;* since the growths are adventitious or parasitic, and are not embedded in glandular structure. Here the prevention of further deposit—in other words, *the restraint of the lesion within its present limits, and the improvement of the general health,* will be the extent of the benefit derived.

Thirdly—*Hard tumours of the cervix, and indurated puckering of the edges of the os (conditions which most frequently terminate in ulceration) may be melted down and cured by the iodine.*

[1] There are other collections which form in the walls of the uterus, but to which I have not thought it necessary to devote a separate chapter, since the symptoms resulting (when they give rise to any) are the same as those just described.

The following extract from M. Duparque's work refers to one of these morbid products:—

"The womb is occasionally the seat of tuberculous deposition, as well as of the more dense growths. There may, or may not, be a membrane surrounding the matter, which is sometimes very small in quantity, at others, collected into larger spheroidal tumours. When cut into, they present the usual transparent, grayish appearance, more or less dense, without any vessels, and generally softer in the centre than at the circumference; commencing at the centre, this softening may extend to the circumference, and then the whole will have a caseous or puriform consistence, and if the resistance of the surrounding parts be inadequate, the sac will burst subsequently either cicatrise or ulcerate. It is only when this takes place, that any symptoms denote the presence of this deposition, otherwise it does not appear to interfere with the functions of menstruation or gestation."

See Duparcque, Traitè théorique et pratique, &c. p. 259.

tumour is attached to some part of it by a neck or pedicle, of a less diameter than the body of the polypus. They are generally round or oval, but are liable to alterations in form, owing to the pressure of the uterine parietes, or of the neighbouring parts.

In size they vary very much. They are found a little larger than a pea, producing serious effects, and occasionally of enormous magnitude. One was excised in the Meath Hospital some years ago, which was more than 14 inches long, and 4 or 5 in diameter at the widest part. Many similar examples are mentioned by authors.[1]

Their colour depends partly upon their vascularity, and partly upon their exposure to the air. Some are quite white, others reddish, and others dark brown. Blue veins may be observed on the surface.

They vary too in the part of the womb to which they are attached, some growing from the *fundus*, some from the *walls or inner surface of the cervix*, and others *from the rim of the os uteri*.

"This distinction," says Dr. Gooch,[2] "must not be lost sight of, for it is of practical consequence. In ascertaining the nature of the tumour for the purpose of determining the propriety of removing it by an operation, the mode of its attachment is one of our chief guides; and, in this respect, what is true of polypus of the fundus, is not true of polypus of the neck or lip. In polypus of the fundus, the stalk is completely encircled by the neck of the uterus, and, if the finger can be introduced into the orifice, it passes easily round between the stalk of the polypus and the encircling neck. In polypus of the neck, the finger cannot be passed quite round the stalk; it may be passed partly round it, but it is stopped when it comes to that part where it is attached to the neck; the stalk is only *semi*-circled by the neck. In polypus of the orifice or lip, the stalk does not enter the orifice, but grows from the edge of it; it feels as if a portion of the lip was first prolonged into the stalk, and then enlarged into the body of the polypus."

"When a polypus grows within the uterus, it dilates its cavity, neck, and orifice, as in pregnancy. Instead of the orifice with the projecting part of the neck, forming a narrow chink in a firm, thick nipple, it is a round space with thin edges, as in advanced pregnancy. In polypus of the neck and that of the lip, the projecting part of the uterus preserves more of its ordinary form and consistence."

It is not, however, at all its stages of growth, that polypus of the

[1] Siebold saw one the size of a child's head. Frauenzimmerkrankheiten, vol. i. p. 687.

See also G. M. Richter, Synopsis praxis medico-obstetriciæ Mosquæ, 110. 4. p. 115. Tab. 6. A. G. Richter's Medico-Chir. Biblioth. B. ix. p. 152.

[2] An Account of the more important Diseases of Women, p. 251. I am sure it is unnecessary to apologise to the reader, for the long extract I have given from the writings of one, who, to accuracy of observation, united so much elegance of expression.

fundus, or of the walls and cervix, is so definite; at some early period, it is, of course, contained within the cavity of the uterus, and not within reach of the finger: the gradual obliteration of the neck as recognised by repeated examinations, will be our main guide.

The expulsive force exerted by the uterus not unfrequently detaches the polypus altogether, and then we may find it expelled as a round tumour.

Polypus of the lip, too, does not necessarily grow by so defined and limited a pedicle from the rim of the os uteri; in the case of the very large one already mentioned, the whole of the posterior lip was involved; indeed it was impossible to point out the line of separation between the uterus and stalk of the polypus. Occasionally, we find more roots than one.[1]

Pathology.[2] The structure of the majority of polypi may be referred to one of three species: 1. The glandular. 2. The cellular. 3. The fibrous.

1. *The glandular* polypus consists in an enlargement of one or more of the glandulæ nabothi in the canal of the cervix.[3] It is not unusual to find a cluster of these together, generally about the size of currants or grapes, suspended by a very fine pedicle. In texture they are soft, exhibiting something like glandular flesh when cut into, and occasionally containing a very small quantity of mucilaginous fluid.

2. *The cellular* polypus is probably the least frequent of any.[4] It occurs singly, or in clusters of two or three; it is soft, and rough, lobulated or divided into bundles of fibres. It is generally of a violet or yellowish colour, and consists merely of cellular tissue, covered partially or wholly by membrane. It resembles nasal polypi very closely.

It possesses a much slighter connection with the uterus than the other species, and is most frequently detached.

[1] See Denman's Midwifery, p. 50.

[2] Dr. Davis describes three varieties. 1. The vesicular. 2. The fibrous. 3. The muco-lymphatic or cellulo-fibrous.

The reader may consult, also, F. L. Meissner Ueber die Polypen in den vershiedenen höllen des menschlichen körpers, nebst einer kurzen geschichte der instrumente und operationsarten. Leipzig, 1820.

[3] A fourth variety of tumour of the uterus to which the term polypus has also been applied by writers, is produced by a morbid enlargement of the glandulæ or ovula nabothi. One of these bodies is sometimes converted into a cyst as large as a walnut, or even a hen's egg, and hangs by a slender peduncle from the cervix or lip of the os uteri. It is smooth and vascular, and contains in some instances a curdy matter, or yellow coloured viscid fluid. The tumour produces great irritation, and gives rise to copious sanguineous and mucous discharges from the vagina." Lee's Paper in the Med. Chir. Trans. vol. xix. p. 127, 128.

Cruveilhier Anat. Path. Liv. 11, pl. 6.

[4] Clarke, on Diseases of Females, vol. i. p. 244.

Occasionally, the pedicle is greatly elongated, constituting what has been called by French writers, "*Polypes à pendule.*"

Probably the sarcomatous polypi described by several authors were really composed of cellular tissue.

3. *The fibrous* polypus is in structure much the same as the fibrous tumour already described, varying in density in different polypi, and also in different parts of the same tumour. In some few cases they have been found hollow,[1] either empty or containing grumous blood (Langstaff), or gelatinous matter and hair, or fat with hair (Cailhava; Guiot). The tumour is always covered by the lining membrane of the uterus (Burns; Gooch). As to the mode of its connection with the uterus, it is sometimes united through the medium of cellular tissue, but much more frequently, the tumour having originally been somewhat embedded in the muscular fibres (Cruveilhier). When it increased in size, it distended the layer of uterine tissue, covering it until it became very thin, and if the polypus still continued to increase, this thin layer gave way, and only partially covered that portion of the polypus nearest to the uterus (Siebold).[2] It is rare that some part of the stalk is

[1] Boivin and Dugès. Saviard, Obs. 36. Levret, de l'Acad. de Chir. t. 3, p. 526, 527.

The following example is related by Mr. Langstaff, in the 17th vol. of the Medico-Chirurg. Trans. p. 63.

"Mrs. ——, aged 59, in whom, a few days previous to death, there was a large polypus, in the uterus projecting into the vagina, died of hemorrhage, before a ligature was applied.

"*Dissection.* The body of the uterus and its parietes were much larger than natural, yet there were not any signs of carcinoma or fungus hematodes.

"A polypus had formed at the superior part of the fundus of the uterus, which seemed to have had its origin in the muscular coat; it had projected into the mucous surface and proceeded along the cavity in the form of a large pedicle, nearly equal in size to its base, and the growth had passed through the os uteri into the vagina, where it had acquired the magnitude of a large peach, and assumed the appearance of a fungoid tumour.

"The mucous surface of the tumour in the vagina, had been destroyed by ulcerative absorption; it was coated with coagulated blood, which appearance induced me to suppose that the hemorrhage had proceeded principally from this part, and not from the vessels belonging to the internal surface of the uterus. On cutting through the whole extent of the polypus, I found the cervix of a dense structure exactly similar to that of the uterus; but to my astonishment, when the incision was extended through that part of it which had entered the vagina, I found in its centre grumous blood contained in a dense cyst, surrounded by coagulated blood."

[2] With regard to the outer covering of polypi, Boivin and Dugès remark, "Dr. Breschet declares that he has continually observed polypi covered with a thin, smooth, glossy membrane (*Dict. de Med.*), in other cases this membrane is distinct, fleshy, and becoming thinner and thinner towards the pedicle in voluminous tumours,—thicker, on the contrary, when the tumour is of moderate size,—but in every case an evident continuation of the fleshy fibres of the organ in which the polypus originated, was distinctly formed of the interior layer of these fibres, forced inwards and drawn to the surface of a fibrous body, originally situated in the substance of the parietes of the viscus. Lastly, in certain cases, we have found this envelope soft, and have

not thus supplied with an additional covering beside the uterine mucous membrane, and not seldom the whole tumour is thus circumstanced.[1]

This pathological fact has been perfectly established by the researches of Lee and others, and it affords the only explanation of some phenomena, which follow now and then the application of a ligature, and perhaps also of the fact stated by Dr. Johnson, that, contrary to common experience, polypi are not always insensible.[2]

The polypus is said to grow occasionally from the mucous membrane of the uterus only (Denman; Burns).

With regard to the circulation in these morbid growths, it cannot be very active, as they are very scantily supplied with vessels generally (Siebold), though sometimes veins may be discovered near the surface (Burns; Breschet; Hervez de Chegion). In Saviard's case, there were two small arteries and two veins. In the Ancien Journal de Med. (tome 29. 1768), a case is related, where two arteries and a vein were detected in the pedicle of a polypus. In a case related by Vacoussain, a distinct pulsation was perceived in the pedicle; and Heming mentions that there is a preparation in the museum of Bartholomew's Hospital, which exhibits the injections of a polypus from the uterus.[3] These would appear to be the exceptions, however, rather than the rule. I have examined a number of polypi, large and small, both before and after excision, and I have never been able to detect pulsation in the pedicle, or the mouths of large vessels.

It is extremely difficult to explain, on pathological principles, the occurrence of the alarming hemorrhages which accompany polypus uteri—it is impossible to attribute their source to the vessels of the polypus, since the existence of such can seldom be ascertained, and, besides, the floodings are as severe from small as from large polypi.[4]

been inclined to attribute its production to an albuminous exudation, secreted by inflammation of the internal surface of the uterus, and afterwards organised by a distinct process, about the exterior of the tumour which had at the first occasioned the inflammation." Heming's Trans. p. 196.

[1] Denman, p. 50.

[2] It is said that an inverted uterus is sensible to the touch, while polypi, on the contrary, are void of feeling. This can never be an accurate mode of forming a diagnosis, as we can only judge of the sensibility of the tumour by the expressions of the patient, which are regulated more by disposition than by the extent of her sufferings. I lately attended a lady with uterine polypus, and had I judged by the complaints of my patient, I should have pronounced the polypus to be more sensible than an inverted uterus usually is." Dr. Johnson's "Cases in which a ligature was applied to the uterus." Dublin Hospital Reports, vol. 3.

[3] See "Cases of polypus uteri, with remarks by Dr. Ashwell," in the London Medical and Surgical Journal, for June 24, 1837.

[4] Concerning the source of the hemorrhage, after stating Dr. Gooch's opinion, that it is the surface of the excrescence, and not the lining membrane of the uterus, Dr. Hamilton observes, "But the experience of the author leads him to entertain a very different opinion on this subject; for, in

The colour varies very much, being sometimes nearly white, sometimes flesh colour, marked by veins (Siebold), and sometimes nearly brown. Dr. Gooch says, "Often as I have touched and removed a polypus, I never saw one on the living subject till Mr. Brodie operated on a case in St. George's Hospital.

"June 5, 1828. An attempt was made to draw the polypus out of the vagina before removing it with the knife, but the attempt failed, and the ligature was ultimately applied in the vagina with my instruments. Whilst this was going on, the orifice of the vagina was so far dilated, as to expose the tumour to our view: it was of a pale flesh-colour, mottled, or rather streaked with large blue veins, like the round balls of soap at the windows of the perfumers."[1]

Perhaps another evidence of the slight vascularity of these pendulous tumours is afforded by the rarity of morbid changes on their surface; they are seldom or never attacked by inflammation or ulceration, and they never degenerate into malignant disease.

Causes. They are said to occur most frequently in persons living in low, and damp situations, in those of lymphatic temperament, and in those who follow sedentary occupations.

As they have been observed some time after abortions, it has been conjectured that a clot of fibrine may have been retained in the uterus, and have become organised.

They have been supposed to be nothing more than enlarged lymphatic glands[2] (*Degnise; Smellie*).

They are not common before the middle age,[3] but are equally frequent in single and married females. Although, probably, we must agree with Sir C. Clarke that the exciting cause is at present

the *first place*, in no instance to which he has been called, has there ever been any bloody discharge from the surface of the polypus, notwithstanding any liberty he might have taken in pressing upon it or in attempting to twirl it round.

2ndly. He has seen several cases, where frightful hemorrhagy was apparently produced by an excrescence not larger than a filbert, attached to the inner border of the os uteri and having a smooth polished surface.

3rdly. He witnessed upon one occasion a case of fatal uterine hemorrhagy, three weeks after delivery, where the only apparent cause was a polypus excrescence, not larger than a horse bean, situated upon the internal posterior surface of the uterus, about 3 inches above the orifice.

The author is therefore inclined to explain the cessation of the hemorrhagy after the application of the ligature round the excrescence, upon a very different principle from that adopted by Dr. Gooch. He presumes that when the tumour is in a state of growth, there must be a certain unusual determination of blood to the vessels which nourish it; but this cannot take place without an increased flow also being directed to the uterine vessels. Indeed, there is perfect evidence of this, for the uterus keeps pace in increase of size with that of the tumour.

Now if there be an increased determination to the uterine vessels, such is their texture, that very slight circumstances must produce a discharge from them."—Hamilton's Practical Observations, &c. p. 43, 44.

[1] Diseases of Women, p. 257.

[2] See Davis' Obstetric Med. vol. ii. p. 620.

[3] Malgaigne has given a table of the ages of 51 females in whom polypi

unknown, we may certainly admit with others, that some irritation, or perhaps a low degree of inflammation, seems to be necessary for their production.

Symptoms. At an early stage, both the local and general symptoms are extremely slight and undecided, but when the disease is more advanced, they assume a distinct and formidable character. They may be divided into those which are, strictly speaking, pathological, and those which are merely mechanical; the former are rarely absent, let the polypus be ever so small, the latter are never present, except when the polypus exceeds a certain size.

Amongst the former, the most important by far is the excessive loss of blood. Hemorrhages occur repeatedly, but irregularly as to time and quantity. The quantity lost is, in many instances, sufficient to blanch the surface of the body, and even the lips, and to induce all the consequences of anemia. The appetite becomes impaired—the bowels relaxed—œdema of the extremities occurs, &c. &c., and the patient is reduced to the greatest extremity. The attack is at first mistaken for excessive menstruation, and thus advice is not sought, until the constitution has severely suffered. In amount of loss the disease goes on ever increasing. The blood may be discharged in a fluid state, without any smell, or it may come away in clots, some of them being accurate moulds of the polypus to which they have been applied,[1] and, when retained long in the vagina, giving forth a putrid odour, calculated to lead to a wrong diagnosis. There is as much hemorrhage in many cases where the polypus is not larger than a filbert, as where it is the size of a pear; indeed, it would appear that there is sometimes less hemorrhage with very large polypi than with smaller ones. With the very large one removed by Mr. Porter at the Meath Hospital, there had been no "loss" for a considerable time previously.

After the removal of the polypus, the hemorrhage ceases immediately and entirely.

As might be expected, menstruation is rendered very uncertain as to the period of recurrence, and irregular as to the amount of secretion.

During the intervals, there is generally, but not always, (Hamilton) a leucorrhœal discharge in considerable quantity; it may be simply an increase of the natural mucus,—there may be a constant draining of a fœtid, ill-coloured fluid from the vagina

were found, collected from the works of Levret, Herbiniaux, Roux, Leblanc, and the theses of the Faculty. They were—

4	women	from	26 to 30	years of age.
20	ditto		30 to 40	ditto.
16	ditto		40 to 50	ditto.
4	ditto		50 to 60	ditto.
3	ditto		60 to 70	ditto.
4	ditto		70 to 74	ditto.

Des Polypes Uterines. Paris, 1833.

[1] See Hamilton's Observations, p. 14.

(Hamilton). According to Denman,[1] it may be serous, mucous, sanious, or sanguineous.

Another symptom of very constant occurrence is frequent vomiting; this is doubtless consequent upon the loss of blood, and partly perhaps upon the expulsive efforts of the uterus, or dragging down of the polypus.

The dyspeptic symptoms, palpitation, emaciation, œdema, and bloodlessness, I have already noticed as the result of the hemorrhages.

The patient also complains of a weight in the pelvis and pressure about the vulva—of a dragging sensation about the loins and groins, of aching in the back, and weariness. Occasionally, there are regular bearing-down pains, which recur until the polypus is detruded from the uterine cavity (Davis). Sometimes their violence breaks the stalk, and then the polypus is altogether expelled. It is worthy of remark, that the portion or root of the polypus left behind in these cases does not originate another tumour (Clement; Puzos).

When the tumour is large, there may be pressure upon the bladder or rectum, at once exciting desires for the evacuation of those viscera and impeding the performance.[2]

The presence of a small polypus does not prevent conception (Gooch), although it renders the continuance of utero-gestation very doubtful, inasmuch as abortion is very frequently caused (Siebold;[3] Wigan[4]). When a very large tumour descends into the cavity of the pelvis, it may offer a serious obstacle to delivery, and require instant removal;[5] and when contained in the cavity, it may be even more detrimental, not by impeding delivery, but by preventing the subsequent contraction of the uterus, and so giving rise to dangerous or even fatal flooding (Cruveilhier). Such a case occurred to me in Dispensary practice[6] about four years ago. The patient, after a natural labour, appeared for a while to be going on well. In a short time, however, flooding came on, resisting the prompt application of all the usual means for arresting uterine hemorrhage, and in 8 or 10 hours the patient died. Upon examining the uterus after death, there was found a large cellular polypus, depending from the fundus, and which, it was evident, had prevented the due contraction of the uterus. No vessel could be detected in the polypus. I was called to a second case closely resembling the one just related, only that the flooding did not come on till 10 days after labour. The uterus could be felt larger than usual, above the pubis, until its contractions forced the polypus to

[1] Midwifery, p. 50.

[2] See Denman, Burns, Clarke, Hamilton, Davis, &c.

[3] Frauenzimmerkrankheiten, vol. i. p. 700.

[4] Stark's Archiv. für die Geburtshülfe, Frauenzimmer und Kinderkrankheiten, &c. B. I. St. i. p. 130. Jena, 1799. Siebold's Journal für Geburtshülfe, vol. i. p. 971.

[5] See all the standard midwifery authors.

[6] Dublin Journal, vol. v. p. 251.

the os uteri, where it could be distinctly felt. We succeeded in arresting the hemorrhage; and afterwards, when we would have tied the polypus, it was beyond reach, though the end could be felt. No further hemorrhage occurred, and the patient recovered her usual health.

Cruveilhier says,[1] that metritis after delivery has arisen from the presence of these tumours. Polypus has been known to occasion prolapse of the womb[2]—or even inversion (Siebold). Denman,[3] Heaviside, and Hamilton of Glasgow, have recorded such cases; and I was permitted, through the kindness of Mr. Lynch, to examine a similar one under his care in Jervis street hospital.[4] The uterus is first distended by the *bulk* of the polypus, and then inverted, by its *weight*, and the forcing downward in the efforts of the uterus to expel its contents.

If our suspicions be excited, and a vaginal examination be made (and no case of hemorrhage ought to be passed over without it), we shall at once discover the polypus, provided it be not retained in the uterine cavity. A rounded, smooth, and insensible tumour will be discovered in the cavity of the pelvis, varying in density, and generally pear-shaped. The stalk may be traced up to, or through the os uteri, if there be room in the pelvis to pass the finger. We are obliged to be contented with very scanty information in cases where the polypus is so large as to fill the vagina.

Should the polypus be still within the uterus, we shall find that organ enlarged in proportion to the magnitude of the polypus; and the projection of the cervix modified according to the downward pressure of the tumour. If several successive examinations be made, we may feel the cervix withdrawn by degrees, until the termination of the vagina shall be marked only by the dilating os uteri, just as we find it towards the latter end of pregnancy.

Diagnosis. There are several diseases with which polypus uteri may be confounded, and from which it sometimes requires

[1] Anat. Path. Liv. 15.

[2] Ruysch's Observ. 6, p. 24. Med. Comment. vol. iv. p. 228. Levret's Essay. Davis's Obstetric Medicine, vol. ii. p. 617.

[3] Denman's Midwifery, case 2, p. 56, 60. Lee's paper. Davis's Obstet. Med. vol. ii. p. 618.

"When polypus of the fundus descends into the vagina, the stalk drags downwards that portion of the fundus to which it is attached, so that in this stage of the disease it is generally complicated with some partial inversion of the uterus. An inattention to this important fact has led to fatal consequences."—Gooch, Diseases of Women, p. 252.

"When a polypus with a pedicle attached to the fundus uteri suddenly falls downward, it occasions a sudden inversion of this viscus. In order to relieve as speedily as possible the great pain and danger of this case, the surgeon must tie the root of the polypus as soon and as firmly as he can, and pass the ligature, by means of a needle, through the pedicle, before the place where it is tied, allowing the ends afterwards to hang down for some length; then the polypus is to be amputated below the ligature, and the uterus immediately reduced."—Cooper's Surgical Dictionary, p. 962.

[4] See the chapter on Inversion of the uterus.

great care to distinguish it[1] (Velpeau). The diagnosis will be rendered still more obscure, if the polypus be retained in the cavity of the uterus (Siebold.) The floodings may at first lead us to suppose the case one of menstrual disorder, but this mistake will be readily corrected by a vaginal examination. Further,

It may be distinguished, 1. *From pregnancy*—by the absence of the audible and sympathetic signs, and by the gradual progress of the disease, and the repeated irregular hemorrhages.

2. *From scirrhous enlargement*—by the absence of pain and ulceration, and by the existence of a pedicle.

3. *From cauliflower excrescence*—by its greater smoothness and density, by its not bleeding when touched, and by its pedicle.

4. *From prolapsus uteri*—by there being no aperture (os uteri) or canal at the lower part of the tumour, by the detection of the os uteri in the pelvic cavity, and by the insensibility (generally) of the polypus.

5. *From inversion of the uterus*, which it resembles the most—by the history of the disease, by the unaltered depth of the vagina, by the presence of the os uteri within the pelvis, by the smooth surface of the tumour, and by its insensibility.

Prognosis. The prognosis must always be grave, so long as the polypus remains, on account of the severe floodings and the dangerous consequences both primary and secondary. If not removed, it may prove fatal by exhaustion, or it may give rise to prolapse or inversion; it may prevent conception, or cut short gestation; or, if the patient should carry her child to the full term, the polypus may offer an obstacle to delivery, or occasion fatal flooding afterward, by preventing the contraction of the uterus. After its removal, however, the patient, in general, recovers her health rapidly.

Treatment. The first question to be determined in the treatment of any case, where we have reason to suspect the presence of a polypus, is, whether it be within reach or not. A vaginal

[1] "Hernial protrusions of intestines into the vagina (says Dr. Davis) are for the most part exceedingly easily distinguished from polypi of that passage, by their elastic and otherwise charateristic feel; by their perfect sensibility to the touch, and especially to puncture or incision made by a pointed or edged instrument; by their being covered by a production of the mucous membrane of the vagina itself, which generally may be easily enough identified by its characteristic rugæ; by the peculiar crepitus of hernial tumours; by their occasional reducibleness of bulk by compression; and by their almost entire non-possession of the properties which more especially distinguish polypi."

"Hernial protrusion of a part of the bladder into the vagina, may be distinguished from a vaginal polypus by the peculiarity of its feel, which is nearly equally soft and compressible, but not so elastic as a tumour formed by a protrusion of intestine; by a difficulty and perhaps pain in voiding the contents of the bladder; by the tortuous direction of the urethra, ascertainable by the introduction of a flexible catheter; by the different sizes of the tumour during states of comparative fulness or vacuity of the bladder; and by its being visibly covered, as in the former case, by a production of the mucous membrane of the vagina." Obstetric Med. vol. ii. p. 622, 3.

examination will generally enlighten us on this point; but still there is a class of cases to which I have referred, where polypus does really exist, and yet the positive evidence thereof is very slight. In such cases, and in those where the polypus is too high for an operation, or too large to pass through the os uteri, our endeavours for a time must be directed to moderating the evils resulting, to supporting the constitution, and to promoting the descent of the polypus.

Our first efforts should be to diminish the hemorrhages, by cold astringent injections, by plugging the vagina, by counter-irritation to the sacrum, &c. and by the internal use of astringent remedies. Some good may thus be done, although in most cases I have seen, the relief has been but partial, just sufficient, perhaps, to enable the patient to wait for the descent of the polypus, with rather less risk than if nothing had been done. Food of the most nutritious quality may be allowed, but the benefit derived from much wine is doubtful; if given at all, it should be in moderate quantity. In order to hasten the expulsion of the polypus through the os uteri, it has been recommended to give ergot, and more especially, as even if there be no polypus, its effects in restraining the hemorrhage will be beneficial.[1]

When the polypus is so large as to be with great difficulty forced through the os uteri, Boivin and Dugès recommend the free application of belladonna to the part, and Dupuytren, the incision of the cervix. However, the necessity for either remedy is very rare, as the hemorrhage itself prepares the uterine fibres for dilatation.

If the polypus be within reach, our conduct must be much more decided. Nothing short of removal ought to be contemplated, as that alone will save the patient. There are three modes of removal, and of these the practitioner must select that which appears to him to be best adapted to the circumstances of each individual case.

1. Certain kinds of polypi may be twisted off. 2. A ligature may be applied, and the polypus allowed to slough off. Or, 3. They may be excised. Siebold[2] adds a fourth method, viz. by the actual cautery, and relates a case in which it succeeded perfectly.

Of all these methods the ligature is most frequently adopted, on account of its supposed greater safety.

1. *Removal by torsion.* Judging from the fact, that certain polypi have been separated by natural efforts,[3] by forcing down, or by various concussions of the body, it was naturally supposed that such as these would easily be removed without having recourse to a formidable operation. (Hervez de Chegoin; Levret; Clarke, &c.) It is only with the cellular polypi that this can be done; and it is, of course, owing to their looseness of texture that it is possible. The mode of operating is simple enough; the polypus is to be

[1] Burns' Midwifery, p. 118. Glasgow Medical Journal, vol. i. p. 411.

[2] Frauenzimmerkrankheiten, vol. i. p. 709.

[3] Cruveilhier, Anat. Pathol. Livr. 13.

seized with the finger and thumb, or with a pair of forceps suited to the purpose, and twisted gently round until the stalk breaks; it is then to be withdrawn. If it does not yield after a reasonable degree of torsion; or if the stalk be found to be too thick, it will be better to have recourse to either of the other methods of removal. No hemorrhage, I believe, ever follows the twisting off of a polypus, and the discharge which existed previously will cease. The only thing necessary to be done, besides attending to the general health, is to syringe out the vagina two or three times.

2. *Removal by ligature.* This mode, which is by no means of modern invention, has been by many, I believe I might say by most modern writers, considered as preferable to any other. Its peculiar advantage is, that it is a cautious method, it avoids all chance of hemorrhage, and is less formidable than cutting across a mass of unknown structure. It has its inconveniences, however, even beyond those arising from the difficulty of application; for, occasionally, the stalk evinces no disposition to separate, and, in other cases, the irritation of the operation, added to the discharge from a semi-putrid mass, has been attended with very serious consequences.

The principle of the removal by ligature is easily explained; by gradually tightening it, the circulation in the polypus is interrupted, and the vitality destroyed; and, in accordance with a known law, an effort is immediately made for its separation from the living parts.

Experience has taught us, that the ligature may be applied on any part of the stalk, and with an equally good effect; for the part which remains, instead of being prolonged into a fresh polypus, invariably sloughs away (Gooch). If the stalk be very thick, it will be advisable to use two ligatures instead of one, i. e. to pass a needle with a double ligature through the centre of the stalk, and then cutting away the needle, the two halves of the stalk will each be provided with a separate ligature (Levret). This will hasten the separation very considerably.

A great variety of *ligatures* and *canulæ* have been proposed; a few only need be mentioned here.

Sir C. Clarke prefers waxed silk as a ligature. Dr. Hamilton[1] uses silver wire. Others have used catgut; others, again, silk wrapped around with fine wire (Blundell). Mr. D. H. Walne[2] has

[1] "Silver wire," says the doctor, "possesses two most important advantages over every other kind of ligature, for it can be applied over the largest polypi by the fingers alone, without any of the complicated mechanical contrivances which have been proposed; and it can be drawn down to the very surface of the excrescence, thereby precluding the chance of involving the uterus."

It is added subsequently that the silver must be pure, and drawn out to about "the thickness of the third string of a violin." Practical Observations, pp. 65 and 66.

[2] Medical Gazette for July 16, 1836.

recently recommended whip-cord, from having observed that, when moistened, it increases in thickness, and diminishes very much in length; thus, as he very ingeniously observes, a ligature of this substance, instead of becoming looser after its application, will tighten itself considerably.

Any ligature may answer, however, provided only that it is strong enough, and not too fine. I have used, or seen used, all the kinds I have mentioned, except catgut, and with equal success.

The canula in most frequent use, is probably the one invented or rather perfected by Levret; it consists of two tubes soldered together laterally. The ligature is passed through these, having the ends hanging out near the shank of the instrument, where there are two loops for the purpose of fastening the ligature when tightened. Herbiniaux "modified the canula of Levret, rendering them movable or fixed upon each other; with one of them, the noose was passed round the pedicle in order to tie it; it was then withdrawn, the two ends of the thread having been previously passed into that which was to remain, to enable the operator to tighten the ligature." "The instruments of Desault, adapted to the same purpose, are more complete, and more easily used; but his manipulation is perhaps too complicated. Dr. Bouchet de Lyons has substituted a string of perforated ivory beads, which receive the two ends of the noose; these are afterwards rolled round and attached to a small bar of ivory, situated externally."[2]

M. Paul Dubois has proposed a speculum provided with a double sheath, which seizes the polypus, and applies the ligature to its pedicle; but this instrument could not be conveyed into the uterus, even when that organ had been brought downward by pressure upon the hypogastrium; and could besides only grasp excrescences of moderate dimensions."[1]

Dr. Blundell recommends *Hunter's polypus needle* as one of the best. "This needle consists," he says, "of a stem of iron, which, though flexible, is nevertheless very stiff, so that you can give it what curve you please, and it will keep that curve; at one end of the stem, there is a loop or eye; at the other end, you have a handle to which the ligature is to be fastened."[3] A double loop of

[1] Boivin and Dugès, p. 213 and 214.

Carus (Gynœcologie, vol. i. p. 327) describes an instrument resembling that of M. Bouchet. "The instrument," he says, "consists of a string of beads and two conducting rods made of whalebone, each of them nine inches long; the highest and lowest of the beads have each two holes, the two ends of the ligature are passed through the two holes of the former, then through the single hole in the intervening beads, and through the two holes of the last bead. The noose projecting from the highest bead, by means of the rods of whalebone is pushed up to the back part of the root of the polypus, and then the two rods are carried round the root of the tumour, till the string of beads lies on the front of the polypus; the ends projecting from the two holes of the lower bead are then drawn (so as to carry the string of beads upwards) and then tied."

[2] Boivin and Dugès, p. 214.

[3] Diseases of Women, p. 128.

the ligature being left at the end of the stem, it may be passed over the polypus up to the pedicle, or being passed once through the eye at the end of the stem, the ligature may be introduced, and with the aid of the finger be carried round the polypus; the loose end of the ligature is then to be passed through the "eye," and both ends are to be drawn tight.

Dr. Burns,[1] speaking of the occasional difficulty experienced in applying a ligature by means of Levret's double canula, observes, "The process may be facilitated by employing a double canula, but the tubes to be made to separate and unite at pleasure, by means of a connecting base or third piece, which can be adapted to them like a sheath."

And he refers to a similar instrument, proposed by M. Cullerier, and described by M. Lefaucheux.[2] The description given by Dr. Burns answers very exactly to the improvement upon Niessen's canula,[3] made by the late Dr. Gooch; but I have no means of deciding to whom the point of priority is due, or indeed whether Dr. Burns did himself use the improved instrument he has recommended.

After noticing the defects of Niessen's canula, and his own alterations, Dr. Gooch gives the following description of the instrument, and of his mode of using it.[4] "The instrument which I use for this purpose, and which, in numerous cases, has assisted me through the operation, consists of two silver tubes, each eight inches long, perfectly straight, separate from one another, and open at both ends. A long ligature, consisting of strong whip cord, is to be passed up the one tube and down the other, and the two ends of the ligature hang out at the lower ends; the tubes are now to be placed side by side, and, guided by the finger, are to be passed up the vagina, along the polypus, till their upper ends reach that part of the stalk round which the ligature is to be applied; and now the tubes are to be separated, and, while one is fixed, the other is to be passed quite round the polypus till it arrives again at its fellow tube, and touches it. It is obvious that a loop of the ligature will thus encircle the stalk. The two tubes are now to be joined so as to make them form one instrument; for this purpose, two rings, joined by their edges, and just large enough to slip over the tubes, are to be passed up till they reach the upper ends of the tubes, which they bind together immovably. Two similar rings, connected with the upper by a long rod, are slipped over the lower ends of the tubes, so as to bind them in like manner; thus the tubes, which, at the beginning of the operation, were separate, are

[1] Midwifery, p. 118.

[2] Dissertation sur les Tumeurs circonscrites et indolentes du tissu cellulaire de la matrice et du vagin.

[3] See Niessen's work, De polypis uteri et vaginæ novoque ad eorum ligaturum instrumento. Gotting. 1785.

[4] On the more important Diseases of Women, p. 269.

now fixed together as one instrument. By drawing the ends of the ligatures out at the lower external ends of the tubes, and then twisting and tying them on a part of the instrument which projects from the lower rings, the loop round the stalk is thereby tightened, and, like a silk thread round a wart, causes it to die and fall off."

It is rather a delicate matter to point out one of these instruments as superior to the rest. Each is recommended, and has been successfully used by men of great experience; and it is probable that more depends upon the operator than upon the instrument. Upon the whole, my experience would lead me to prefer Levret's canula,—supposing I used one at all,—if the polypus be small, and Gooch's, if the polypus be above a moderate size. I quite agree with the translator of the work of Boivin and Dugès, that it is much more difficult to apply a ligature to small polypi than to large ones; and I think this, among others, an argument for their excision.

Great care must be taken that a portion of the os uteri be not included in the loop of the ligature, as it occasions great suffering.

It has already been remarked, that in many cases the uterine fibres are continued for a certain distance upon the stalk of the polypus, and this at once explains the pain which occurs in some cases where the os uteri is intact, and which may require the ligature to be loosened, and afterwards tightened more gradually.

Having chosen the instrument we prefer, and arranged the ligature in the tubes properly, the patient should be placed on her side or back, and the ligature carefully applied in the way described when considering each kind of instrument. After the operation, the patient must be cautioned against sudden movements, as, if the canula were forced inwards, irreparable damage might be done. In order to avoid this, it is well to let the situation of the canula be anterior to the polypus, and, if necessary, it might be confined to the thigh by a piece of tape.

The frequency with which the ligature should be tightened will depend entirely upon there being any constitutional irritation or not; if not, every day will not be too frequent, as the sooner the polypus is removed the better; but if there be much local pain or general disturbance, we must be cautious: we may even have to relax the ligature; at all events, tightening every second or third day will be often enough.

After the first day, a syringe-full of tepid water, or infusion of camomile, should be thrown up the vagina each time the ligature is tightened; it will remove any offensive discharge, and will render the patient much more comfortable. After an interval, varying from six days to three weeks, the canula will be found loose in the vagina, and the stalk of the polypus severed. If the tumour be small, a finger will suffice to hook it out of the vagina; but, if very large, there may be some difficulty, especially in women who have not borne children, and it may be necessary to use a

hook or a pair of forceps. There are some cases, however, which are altogether indisposed to separate under the influence of a ligature. A case of this kind occurred some years ago in the Meath Hospital, and after remaining some time without any progress from the application of the ligature, Mr. Porter removed it with the knife.[1]

During the time the ligature is applied, the patient must, of course, remain quiet in bed; the bowels must be kept free by enemata, and if there be much pain or sleeplessness, an opiate may be given. Injections of tepid water, alum and water, or infusion of camomile, should be used each day for some little time after the fall of the polypus (Joerg; Siebold). In most cases, not a drop of blood is discharged from the time the ligature is applied, and with care the patient almost always rapidly recovers from the state of anemia into which she had fallen, and from its secondary consequences.

There are exceptions, however, to this satisfactory convalescence, and patients have been known to die from "irritation and fever," before the separation of the polypus,[2] and of uterine phlebitis succeeding the operation. A case of the latter kind occurred in St. George's Hospital, under the care of Mr. Babington,[3] and a similar one to M. Blandin. Dupuytren met with eight or ten fatal cases, which presented all the symptoms which arise from the absorption of pus into the system.

3. *Removal by excision.* A due estimate of the inconvenience arising from the presence of a semi-putrid body in the vagina, during the time the process of separation by sloughing is going forward, with experience of the occasional difficulty of procuring separation by such means, together with the absence of large vessels in the majority of polypi, has led many eminent practitioners to substitute excision with the scissors or bistoury, for the ligature. Amongst these we find the names of Simson, Osiander, Hervez de Chegoin, Siebold, Mayer,[4] Dupuytren, Arnott, &c. It

[1] For a full and interesting account of the different instruments which have been employed for applying the ligature to uterine polypi, with illustrative plates, the reader is referred to Dr. Davis's Obstetric Med. vol. ii. p. 633, et seq.; Joerg. Krankheiten des Weibes, p. 369, et seq.; Siebold's Frauenzimmerkrankheiten, vol. i. p. 709, et seq.

[2] British and Foreign Review for July, 1837, p. 183.

[3] Cyclop. of Pract. Med. art. Pathology of the Uterus, vol. 4.

[4] Siebold and Mayer, of Berlin, only approve of the ligature in two cases. 1st. When an artery can be felt pulsating in the neck of the polypus. 2d. When the neck of the tumour is so thick that it probably contains large vessels. In all other examples they prefer excision on the ground of the difficulty of applying a ligature, and because, when applied, the symptoms are apt to be more severe, and the annoyance greater, than after excision. They operate with round-pointed scissors, curved like a Roman S both in the blades and handles, and from 9 to 10½ French inches in length. The division of the neck of the tumour is to be effected not all at once, but by repeated strokes of the instrument.

"In Mayer's work six cases are related, in which polypi of the uterus were

has been tried by some of the most eminent surgeons in this city; and I have, in one instance, adopted the plan myself, with perfect success. Scarcely a drop of blood followed any of these operations. The hemorrhage is the only objection, that I am aware of, to this method of cure (Levret, &c.) There is very little danger, however, as the stalk of the polypus rarely contains vessels of any size; should such be felt pulsating, it would, no doubt, be wiser either to trust to the ligature or to a modification of the two: i. e. to tie the stalk of the polypus, and after 12 or 20 hours, cut off the polypus below the ligature, leaving that, for some days, as a security against hemorrhage.

There are other cases in which excision would be impossible or hazardous, as, for instance, when the polypus has only just descended through the os uteri. If doubtful, the ligature should be used.

The mode of operating is simple enough:—the patient being placed on her back or side, the polypus must be seized either with the fingers, a hook, or a small pair of forceps, (those invented by Museux will answer very well), and drawn without the external parts. Sometimes, though rarely, it can be forced down by the natural efforts. When protruded, it is to be seized by the operator, and divided close to the vulva by the stroke of a bistoury or the clip of a pair of scissors; the former appears the best when the polypus is external.

When, however, the polypus is small, and the uterus situated high, we cannot draw it through the vaginal orifice, but must be contented to carry up a pair of blunt-pointed scissors, guided by one or more fingers, and to place the polypus between the blades so as to cut it across. In these cases, the speculum will sometimes be found of great service. It will be an advantage, if the blades of the scissors be curved at their extremities. If, after the operation, there be any fear of bleeding, an astringent injection may be thrown up the vagina, or a plug introduced. Of course, the patient must rest quietly for some days.

In conclusion, it may be well to recapitulate the respective

thus successfully removed by Siebold and himself."—Cooper's Surgical Dictionary, p. 962.

Siebold mentions the following as the circumstances which would call for excision of the polypus rather than the ligature. "1. When the polypus is either detruded from the uterus, or can be drawn down with a pair of forceps, or when it is attached to the os or cervix uteri, the stalk being thin, and there being little evidence of vascularity. 2. When the ligature has been applied for some time, and the polypus is sufficiently within reach, it may be excised below the ligature. 3. When the stalk of the polypus does not separate after the application of the ligature. 4. When the polypus has entailed an inversion of the uterus."—Frauenzimmerkrankheiten, vol. i. p. 710.

Dupuytren removed 200 polypi in the course of his practice, and hemorrhage only occurred twice in so large a number. Velpeau has treated eight cases thus, without any hemorrhage at all. Arnott and Brodie have been equally fortunate. See Brit. and For. Review for July, 1837, p. 183.

advantages of the two plans. *By the ligature*, it is said, 1. You avoid the danger of hemorrhage. 2. You destroy the polypus more effectually.

By *excision*, 1. The tedious process of separation by sloughing is avoided. 2. There is less chance of constitutional irritation or of local inflammation. 3. The danger of hemorrhage is slight; and even if it should occur, it can be commanded by astringents, plugging, or the actual cautery.

In some of the cases I have mentioned, a modification of the treatment which has been detailed will be necessary.

If we could ascertain that the flooding after delivery depended upon a polypus in the womb, the best plan probably would be to introduce the hand and twist it off. Judging from its cellular structure, this could have been easily done in the case which occurred to me.

Where the polypus has dragged down the uterus, it may be necessary, after the removal of the excrescence, to maintain that organ in its place by a pessary; at all events astringent injections should be frequently used.

But if the uterus have been inverted by the weight of the polypus, as there can be no hope of reducing the inversion, and as this is a serious disease in itself, it may perhaps be deemed advisable to remove the whole. The polypus should be first separated, and then a ligature may be applied around the neck of the uterus, and it may either be left to slough off, or it may be amputated below the ligature.[1]

After the removal of a polypus, the mucous, as well as the bloody discharge, ceases; and in most cases, if the hemorrhage has not been enormous, the patient recovers her health speedily (Gooch). There are exceptions to this rule, however, for Dr. Hamilton[2] states that he knew three patients die after the removal of the polypus.

It will be the duty of the practitioner to apply himself sedulously to the mitigation or removal of the secondary symptoms which the loss of blood has entailed. The strength must be supported by broths, jelleys, or by animal food, as the stomach may best bear it; wine should also be given, and either vegetable or mineral tonics.

[1] See the chapter on Inversion.

[2] Practical Observations, p. 58.

Besides the works already quoted, the student may consult—Goerz, diss. sistens novum ad polypos uteri instrumentum. Gotting. 1783. Contigli, Raccolta di opuscoli medico-pratici, vol. iii. p. 139. Zeitmann. diss. de signis et curatione polyporum uteri. Jenæ, 1790. Stark's Archiv. für die Geburtshülfe, B. I. St. ii. p. 157. Burnstein's Beschreibung eines neuen instrument zur unterbindung der Mutterpolypen, in Loder's Journal of Surgery, B. 2. St. 4. Sauter's einfache und leichte methode zur unterbindung der Gebärmutterpolypen, in B. Von Siebold's Chiron. B. 2, St. 2, p. 420. Hauk, ueber Gebärmutterpolypen in Rust's Magazine, 2d & 3d vol. Siebold Journal für Geburtshülfe, &c. vol. vi. p. 310; vol. vii. p. 641, 928; vol. viii. p. 557, 713, 845; vol. x. p. 466, 577.

If there be diarrhœa, as not unfrequently happens, cretaceous mixture or powders, with kino, catechu, or opium may be given.

Moderate exercise in the open air in a carriage, after some weeks, will be found highly advantageous.

CHAPTER XVII.

CAULIFLOWER EXCRESCENCE.

As the disease now about to be described is well known by this name, which was given to it by Dr. John Clarke,[1] and retained by his brother Sir C. Clarke,[2] it would only occasion confusion to change it, although it is not the most appropriate.

The French authors, Levret and Habiniaux, describe a malignant excrescence under the name "vivaces," and Dr. Gooch conceives this to be nothing but the "cauliflower excrescence."[3] He considers it to be the disease which in other parts is called "fungus hœmatodes." Boivin and Duges[4] object to this opinion, that these tumours are too solid, and not simply vascular. Mr. Heming seems inclined to take part with Dr. Gooch. Dr. Hooper[5] quarrels with the term given to the disease, and with some reason, but having described "cephaloma," he says that cauliflower excrescence is nothing but "polypoid cephaloma," in which he is surely wrong; at least, if we compare his descriptions with those of Sir C. Clarke's, it is very evident that they are describing two widely different diseases.

Without entering further into disputes about names, I shall

[1] See his paper in the "Transactions of a Society for the improvement of Medical and Surgical Knowledge," vol. 3.

[2] Diseases of Females, vol. ii. p. 57.

[3] Compare the chief properties of these two excrescences, the one described by Herbiniaux and Levret, and the other by Dr. Clarke:

Vivaces.	*Cauliflower excrescence.*
A rough surface.	A rough surface.
Grows from a broad base.	Grows from a broad base.
A soft fungus.	A congeries of vessels.
If removed, grows again.	If removed, grows again.
The effect of death, not observed.	After death or a ligature, shrinks to an empty skin.
Insensible.	Insensible.
Kills by frequent hemorrhages.	Kills by frequent hemorrhages.

"By comparing the above parallel columns, the reader will easily see that the essential properties of these two excrescences are almost identical, and that there is no more difference between them than what would naturally arise from two observers describing the same thing."—Gooch on diseases of Women, p. 303.

[4] Diseases of the Uterus, p. 293.

[5] Morbid Anatomy of the Human Uterus, p. 16.

See also Duparcque, Traitè theorique, &c. p. 85; Lisfranc, Mal. de l'Uterus, p. 364.

endeavour to give an accurate view of the disease. It consists of a morbid growth from a part, or the whole of the circumference of the os uteri, and, less frequently, from the surface of the uterine cavity (Gooch). It is met with in females of all ages, married or unmarried, without regard apparently to temperament, habits, or residence. Still it is not so frequent as this description might lead us to expect. "When we see one case of cauliflower excrescence, we see ten or even twenty of common polypus; and fifty of carcinoma, or malignant ulcer of the uterus."[1]

The *causes* are very obscure; it cannot be considered as the result of injury to the cervix by concussion or by labour, since it occurs both in women who have never borne children and in virgins.

Neither can it be considered as the result of excessive coition or of syphilis; for, though it does occur in prostitutes, it is not more frequent in them than in other females. Sir C. Clarke seems to think that the disposition is connate, and that it only waits for a more abundant vascular circulation to become developed.

Pathology. The tumour is highly vascular, and of a bright flesh colour, with a slightly granulated surface, or a smooth surface upon which are numerous small projections. The structure is tolerably firm, but if roughly handled it bleeds. It is covered with a very fine membrane, which secretes the watery fluid which is discharged so copiously.

All attempts to inject the tumour from the uterus have failed; nevertheless there can be little doubt of the accuracy of Sir C. Clarke's opinion, that it really consists of a congeries of vessels; for after death, or the application of a ligature, the tumour disappears, and nothing but a small mass of loose flocculi can be discovered. Out of several cases, Sir Charles Clarke only succeeded in obtaining one preparation. Generally speaking, it is attached to the circumference of the os uteri more or less entirely. Clarke indeed never saw it otherwise, but Gooch and others have found it growing from different parts of the cavity. It is seldom discovered until it has attained some size; and it may go on increasing until it protrudes through the external orifice. Its bulk is a good deal affected by the dilatability of the vagina; when this canal is narrow and rigid, the morbid growth is restrained; but in married women who have borne children, and in whom the vagina is loose and distensible, it grows to a large size. The disease appears limited to the uterus; the vagina is found perfectly healthy. If it be removed, it grows again in a comparatively short time; and in this consists its malignancy.

Symptoms. The first symptom which attracts the attention of the patient, is an unusual moisture about the external parts, and which soon assumes the appearance of a copious watery discharge

[1] Gooch, Diseases of Women, page 309.

from the vagina.[1] This discharge sometimss becomes enormous, wetting a prodigious number of napkins in the course of the day, and acting as a drain upon the patient's constitution.

But this is not all; nor indeed is the patient sufficiently alarmed to seek for medical advice, until this discharge is observed to be streaked with blood. By and by, more profuse hemorrhages occur, even to an alarming extent, brought on by sexual intercourse, or by the evacuation of hardened fæces. An examination will also cause flooding. During the intervals of the hemorrhages, the watery discharge goes on, and the effect of both is a fearful inroad upon the constitution. Amenia, with all its secondary attacks, is the result. The stomach and bowels soon get disordered, the various symptoms of dyspepsia appear, the patient may become anasarcous; or effusion into some of the serous cavities may take place, and of this the patient generally dies.

Vomiting occurs occasionally, and temporary loss of vision has been noticed (Clarke). As the progress of the disease is rapid after the setting in of the hemorrhages, and as the patient dies of loss of blood, or of its immediate consequences, and not of disease properly so called, very little emaciation takes place.

If a *vaginal* examination be made at any stage of the disease, the tumour, having the sensible characters already mentioned, will be found in the vagina; and in most cases its insertion into the lip of the os uteri can be traced. It communicates a feeling very like that occasioned by touching a portion of the placenta on its uterine surface. The examination does not give pain, as the tumour possesses no sensibility (Clarke).

An examination with the *speculum* merely adds to our previous information a knowledge of the colour of the tumour, which is a bright flesh red, and it perhaps more distinctly reveals the granulated surface.

Diagnosis. "I do not believe that any man can tell infallibly by touch, whether a tumour in the vagina is a malignant excrescence, which is to grow again, or a benign one, which, if removed, will never return."[2] Although we may not altogether agree with Dr. Gooch in the impossibility of ever pronouncing a tumour non-malignant, there can be no doubt of the difficulty of pronouncing one to be malignant, and of the very great caution necessary in coming to this conclusion. Our principle must be first to ascertain what it is not, (proceeding as the French say, "*par voie d'exclusion,*") in order at last to arrive at its real character.

It may be generally distinguished—1. *From fibrous tumours and polypus,* by its greater softness, by its rougher granulated sur-

[1] According to the extensive investigations of M. Marc d'Espine, a *watery* discharge is peculiar to the *uterus*, he having never met with it in all the cases of *vaginal* leucorrhœa he examined. This observation increases the value, by limiting the frequency, of the symptom.

[2] Gooch, Diseases of Women, p. 308.

face (they being most frequently smooth), by its bleeding when touched, and by the absence of a pedicle.

2. *From the fungous surface of cancer*, by the tumour being distinct, soft, and movable, and by its insertion into the lip of the os uteri. The constitutional symptoms are those arising from amenia, and not from the irritative fever of cancer.

3. *From the edge of the placenta*, by the absence of the signs of pregnancy, but should pregnancy and cauliflower excrescence co-exist, the diagnosis might be very difficult. The state of the os uteri and the locality of the placental souffle might enable us to come to a just decision.

Prognosis. From the severe floodings which recur at intervals, and from the obstinate reproduction of the tumour after excision, the prognosis is very grave, the disease almost always ending fatally. The prognosis is more favourable, according to Sir C. Clarke, when the tumour arises from only a part of the os uteri, than when it occupies the whole circumference.

Treatment. It is very questionable whether the progress of the disease can be arrested, except by excision. Dr. Gooch evidently doubts this; but Sir C. Clarke says he succeeded in two cases by the use of astringent injections. By way of derivative, he recommends cupping the loins, by which means, he says, the watery discharge will be diminished. This, however, should never be done when the patient is much exhausted, or when œdema is present. Benefit is also derived from sponging the loins and vulva with cold water, and from injections of cold water into the vagina and rectum. More good may be expected from the use of astringent injections,[1] but great care must be taken not to introduce the pipe of the syringe too far, as, if it come in contact with the excrescence, it may cause hemorrhage.

If the tumour fill the vagina, Sir C. Clarke suggests that the astringent lotion should be poured into the vagina, the patient lying on her back with the hips raised; or, if the excrescence have passed through the external orifice, lint dipped in the lotion must be kept constantly applied.

The patient should live altogether apart from her husband: she

[1] The following are the formulæ of some of the astringent injections recommended by Sir C. Clarke:—

"R. Zinci sulphat. ʒiss.; Aquæ rosæ, ʒiv.; Aquæ distillat. ʒxvi. M.

"R. Aluminis, ʒiii.; Aquæ distill. ʒxv.; Mucil. Acaciæ, ʒi. M.

"R. Infus Lini. ʒxv.; Aluminis, ʒii.; Tinct. kino. ʒi. M.

"R. Cupri Sulph. gr. x.; Aquæ flor. Sambuc.; Mist. Camph. āā ʒvi. M.

"Solutions of the mineral astringents in decoctions of astringent vegetables, constitute applications possessed of great power, as—

"R. Cort. granat. contus. ʒfs.; Aquæ distillat. ʒxiii. coque per sextam partem horæ et cola, dein adde liquorī colato, aluminis ʒii.

"R. Gallarum, ʒss.; Aquæ distill. ʒxviii. coque ad ʒxvi. et Liquoris colati. ʒxviss. adde Spirit. roris marini, ʒss.; Aluminis, ʒiii. M.

"R. Decoct. quercus, ℔i.; Tinct. Catechu, ʒss.; Aluminis, ʒii.; Zinci sulph. ʒi. M."

See Clarke on Diseases of Females, vol. ii. p. 101.

should constantly preserve the recumbent posture, and her diet must be mild and nutritious, without wine or stimulants. Mild laxatives should be given, so as to prevent the accumulation of hard fæces, the evacuation of which is frequently attended by a discharge of blood.

If, as is to be feared, this treatment do not succeed in diminishing the tumour and arresting the hemorrhage, we have no resource but the ligature; nor is it an objection of any force that the excrescence will grow again rapidly; we know that the patient must die if left alone, whereas the operation, if it do not cure, will at any rate retard the fatal event. Any of the ligatures I mentioned, when speaking of the removal of polypi, may be applied with either Levret's or Gooch's canula. Two or three days will suffice for the separation of the tumour. After this it is usual to throw some astringent solution up to the os uteri, in order to check the disposition to reproduction. I have tried the application of a strong caustic (muriate of antimony) to the spot from which the tumour originated, and with complete success so far. The use of the speculum enabled me to apply the caustic exactly, without the slightest injury to the neighbouring parts.

After the operation, great care must be taken to avoid every possible cause—local and general stimuli should be avoided, and the diet of the patient carefully arranged.

CHAPTER XVIII.

CORRODING ULCER OF THE UTERUS.

When describing "Simple Ulceration of the Cervix Uteri," a reference was made to another species of ulceration, distinguished by its extent and malignancy, and which, on this ground, has been frequently confounded with cancer, from which it is essentially different. It has been noticed from time to time by different authors, but without any very clear comprehension of its peculiarities.

The name of "corroding ulcer of the os uteri," was first applied to this form of malignant ulceration by Doctor John Clarke, of London, and to him and to his brother, Sir C. M. Clarke, Bart. we are indebted for the best account we possess of it.[1] We shall find,

[1] Dr. Baillie has given a very succinct and accurate description of it—he says, "It is not unusual for an ulcer to be formed in the uterus, of a very malignant nature. This is most apt to happen to women at the middle period of life, or at a more advanced age; but it sometimes happens in women who may still be said to be young. The ulcer generally begins in the cervix uteri; and the uterus is at the same time somewhat harder and larger than in the natural state. It does not, however, grow to any considerable size. The ulcer spreads from the cervix to the fundus uteri, and it is not unusual to see the greater part of the fundus destroyed by it, the rest being changed into a tattered ulcerated mass. The ulceration is not always confined in its boundaries to the uterus, but sometimes spreads into

however, that there are some points which seem to have been passed over too lightly by these authors, and others which are scarcely consistent with more extended observation. The disease attacks females of the lymphatic temperament especially, and generally about the period of the cessation of the menses, or soon after. Sir C. M. Clarke says, that he "does not recollect having met with an instance of the disease before the age of forty;" I have, however, seen it at a much earlier period. It is frequently preceded by occasional pain or uneasiness in the pelvis, a sensation of heat internally, and by whites; but in other cases there are no precursory symptoms, and the attention of the patient and her medical attendant is first directed to these organs by a profuse hemorrhage, which is often mistaken for an irregular recurrence of the menses. If we make an examination at this period, we discover ulceration of the cervix uteri to a greater or less extent, with a rough granular surface, which may be insensible to the touch—slightly tender—or very irritable and painful.[1] The situation and direction of the ulceration will vary in different subjects. *The remaining portion of the uterus is scarcely at all enlarged, and the contents of the pelvis are free and movable.*

The hemorrhage may cease for some time, but as the ulceration spreads, it will return at intervals through the whole course of the disease, less frequently, however, and in smaller quantity towards the conclusion. It has appeared in some cases to relieve the pain for a short time, and to suspend in a slight degree the progress of the complaint.

During the intervals of the "shedding," a profuse discharge takes place from the vagina; but of a totally different character from the whites which precede the attack. It is thin and ichorous, and of a very offensive odour;[2] its colour varies from a light straw

the neighbouring parts, as the vagina, the bladder, and the rectum: making communications between them, and producing dreadful havoc." Wardrop's ed. of Dr. Baillie's works, vol. ii. p. 323. See also Ruysch, Obs. 12. Davis's Obstetric Med. vol. ii. p. 745.

[1] Sir C. M. Clarke observes, "When a finger introduced into the vagina is made to pass over the ulceration, the patient does not complain of pain; she does not suddenly shrink from pressure, as when carcinomatous ulceration is present; but if asked what sensation she experiences, she will commonly reply, that she has a sense of soreness."—Clarke on Diseases of Females, vol. ii. p. 195. That this is true of many cases, there is no question; but that there are exceptions so marked as to negative the use of this sign, as a guide in forming our diagnosis, is proved by cases which have occurred to myself; and, on the other hand, several authors have shown satisfactorily, that we may have true cancerous ulceration without pain or tenderness on examination per vaginam.

[2] It is worthy of notice, that this odour is very much less perceptible after death than before. I remember a case where the peculiar fetor was perceptible immediately on entering the hall door of the house, and almost insupportable in the apartment of the patient during her sickness; and yet when the uterus was removed from the pelvis, it had almost entirely lost

colour to a dark brown; occasionally, but rarely, it resembles purulent matter.

Soon after the disease has developed itself, we find the patient complaining of weakness, weight, and pain in the back; the latter sometimes extending to the loins, or round the lower part of the abdomen. The character of the pain is by no means uniform; sometimes it is described as lancinating, resembling a knife running into the back; at others, burning like a hot iron. In a few of the cases that I have seen, no pain whatever was experienced from the commencement. The great weakness of the back, however, was present in all. Of course, so grave an attack cannot occur without severely affecting the constitution. The patient becomes emaciated; the appetite diminishes; there is occasional sickness of stomach; the bowels are irregular; the pulse is quick and small; the skin becomes dry and sallow, and a low fever sets in. From this time the disease advances with variable rapidity; in some cases it makes rapid progress, in others, as Sir C. M. Clarke observes, it may continue for years without extinguishing life.

If we examine, *per vaginam*, occasionally, during the progress, we shall find the ulceration extending either circularly, or on the anterior or posterior surface of the uterus, and, at length, in the latter cases, penetrating the bladder or rectum.

By and by, the discharge is augmented, the fever increases, and the patient loses all her flesh; the features are sharpened and the eyes sunk; the skin dry, or perhaps moist and flabby; the appetite ceases; dyspepsia is constantly present; the bowels are constipated, and their evacuation causes severe pain. The distress of the patient is often increased by excoriation of the vulva, caused by the acrid discharge.

Ultimately the patient either sinks from exhaustion, or is carried off by perotonitis, from the extension of the ulceration to that cavity, or by hemorrhage. The latter termination is, however, very rare.

A *post mortem* examination reveals clearly the nature and extent of the disease. The uterus is found more or less destroyed by ulceration, which sometimes extends itself circularly so as to destroy the cervix and part of the body completely, leaving the remainder suspended by the ligaments, and unconnected with the vagina, except by the surrounding cellular tissue; in other cases, it attacks the anterior or posterior wall of the uterus only, with the neighbouring portion of the vagina, and the bladder or rectum. If the bladder be perforated, the vagina will be found more or less coated with matter deposited from the urine: if the communication be with the rectum, fæcal matter will be found in the vagina: I have never seen a case in which the bladder and rectum were both perforated. It is important to remark, that there is no deposition of new morbid matter either in the uterus itself, or in the neigh-

the peculiar odour. Can it be that the odour is the result of a secretion of a fetid gas from the ulcerated surface?

bouring parts.[1] The portion of the uterus which remains undestroyed is slightly swollen and vascular.

Although, from the nature of the changes which have taken place, we do not perhaps discern indications of the presence of inflammation as the primary disease, we can scarcely avoid concluding such to have been the nature of the first attack; but what were its characteristic marks, or when it acquired its malignant character, it is difficult to say. Neither is it easy to explain why ulceration should attack that part of the uterus first, which possesses the lowest degree of organisation,[2] or why the hemorrhages should be most frequent whilst the ulceration occupies the least vascular portion of the organ.[3]

Diagnosis. 1. I have alluded to the similarity of this disease to *cancerous ulceration.* Both commence about the same period—at the cessation of the menses; either may give rise to lancinating pain, to a sensation of burning, or to no pain at all: to hemorrhages, to offensive discharges, to emaciation, to fever, and both generally terminate fatally. How then are we to distinguish them? Sir C. M. Clarke lays great stress upon the character of the pain as a means of diagnosis: "It appears (he says) that pain of an intense and acute kind is not a character of the corroding ulcer of the os uteri;" and he states this as differing remarkably from the lancinating pain of cancerous ulceration "which invariably attends that complaint." A reference to many cases of cancer uteri on record will show that the latter assumption is incorrect; and amongst the cases of corroding ulcer of which I have taken notes, I find that one had suffered no pain from the beginning of the attack; others complained of burning pain; and some of severe lancinating pain. We cannot, therefore, attach much value to this test; nor is the tenderness on examination more available. Nothing conclusive is to be gathered from the period at which the hemorrhages occur, or from their extent. The other symptoms are too much alike in both diseases to afford us any assistance. Speaking very generally, I am inclined to think that there is somewhat less amount of pain in corroding ulcer than in cancer uteri; that there is less febrile action; that the dyspepsia is less tormenting, and that the emacia-

[1] My own observations thus fully confirm Sir C. M. Clarke's remarks on this point. In vol. ii. p. 191, of his work, he says, "If the body of the patient be inspected after death, there will appear abundant evidences of the destructive process, but no hardness, no thickening, no deposit of new matter.

[2] See Bell's Anatomy, vol. iii.

[3] The comparative vascularity of different portions of the womb may be displayed by making a vertical section either before menstruation, during menstruation, during gestation, or at the time of the cessation of the menses. At all these periods, very much fewer orifices of the divided vessels will be found in the cervix than in any part of the body: in aged females, indeed, it becomes nearly cartilaginous. In addition, it has been observed, (Boivin and Dugès, &c.) that no menstrual discharge is secreted by the membrane lining the neck of the uterus.

tion is not so excessive. But these are very slight differences in degree, and of very uncertain occurrence; they cannot, therefore, be depended upon.

The true ground of diagnosis, and the marked distinction between these two formidable complaints, is discovered by a *vaginal* examination. In cancer uteri, there is extensive deposition into the cellular membrane and glands, between the vagina and rectum, and between the vagina and the bladder, as well as into the substance of the uterus itself, connecting them so as to form one large mass, and *rendering the whole immovable;* the finger, on being introduced into the vagina, finds *very little space*, and no power of *moving the parts with which it comes in contact.* Whereas in corroding ulcer, no deposition having taken place, *the uterus can be moved by gentle pressure*, and part of the pelvic contents having been destroyed by ulceration, *there is more space than usual in the cavity.*

In addition, the finger should be introduced into the rectum, and a very careful examination made of the condition of the vagina and of the surrounding interspaces; as in a case I had recently an opportunity of seeing, through the kindness of my friend, Surgeon Ferrall, of St. Vincent's Hospital, there was extensive carcinomatous deposition around the vagina and neck of the bladder, but not implicating the uterus, which was of the natural size and movable. This case illustrates the value of the physical signs I have insisted upon, whilst it impresses upon us the necessity for careful investigation, and shows the difficulties which are occasionally met with. It is, moreover, a rare case, as the morbid deposition generally commences in the uterus.

I may add, as an evidence of the difference between the two diseases obtained by inspection after death, the fact, that in cancer uteri, scirrhous depositions are found in other organs, as the lungs, liver, &c., but none such in cases of corroding ulcer.

2. *From simple ulceration*, it may be distinguished by the greater extent of the mischief, the fetid discharge, the severer pain, and the malignant character of the disease.

Prognosis. Sir C. M. Clarke, in his admirable work, seems to expect little more than being able to delay its fatal termination, and this not entirely from the intractable nature of the attack, so much as from the advanced period at which it first comes under our care. Upon the extent of the ulceration, its effects upon the neighbouring viscera and upon the constitution, our prognosis must be founded. Under all circumstances it is a very dangerous disease, and but little hope can be held out of permanent cure.

Treatment. The remedies which should be employed will of course vary according to the stage of the disease. Should we be consulted before any breach of surface has taken place, which is seldom the case, Sir C. M. Clarke advises the loss of blood from the neighbouring parts by cupping, or the application of leeches, to be repeated, if necessary. Hip baths may also be serviceable at an

early period. But if ulceration have set in, are we then to consider the patient altogether beyond our reach? Should we not be justified in excising the cervix uteri, if the ulcer has not spread to the body? In some cases, this might be considered as affording the patient another chance of life, and consequently might be advisable, but, as will be seen in the next chapter, the results of this operation are not such as to excite any very sanguine expectations of benefit. It would be quite useless if the body of the uterus have become engaged. In such a case we have a remedy which may possibly be useful: I allude to cauterisation. Caustic injections may be employed, or the ulcer touched with solid caustic by means of the speculum. As yet I have had no opportunity of trying this mode of treatment in cases sufficiently recent to afford reasonable expectation of benefit. I have used vaginal injections of nitrate of silver in advanced cases, with temporary relief; it assuaged the pain, and deprived the discharge of its fetid odour.[1] Ten, twenty, or thirty grains may be injected twice a day, dissolved in two or three ounces of water.

If these remedies fail to arrest the progress of the disease, or if from peculiar circumstances they are inadmissible, we can only hope to palliate the more distressing symptoms. Sedatives, such as opium, hyoscyamus, belladonna, &c. may be given to alleviate the pain. Astringent injections may be employed to check the hemorrhages; and mucilaginous or aqueous ones to cleanse the vagina from the discharge, and to prevent excoriation. The utmost cleanliness should be observed, and the external parts should be washed two or three times a day with tepid milk and water. The bowels should be kept free by mild purgatives or enemata. The dyspepsia will be somewhat relieved by aromatic mixtures, or a combination of rhubarb and blue pill.

The diet should be nutritious and bland; but stimulants, except in very moderate quantities, ought to be avoided, as likely to prove injurious, and to induce a recurrence of the hemorrhage.

CHAPTER XIX.

CANCER OF THE UTERUS.

This is the most fearful and uniformly fatal disease to which the uterus is obnoxious; it is the most irresistible in its progress, and the least amenable to treatment. It is often met with, generally very marked in its symptoms, and as it is uniformly fatal, abundant opportunities are afforded of anatomico-pathological investigations. And yet, if we compare the writings of different persons, and those

[1] This peculiar effect of nitrate of silver was observed in a case of cancrum oris, in the Richmond Hospital, to which it was applied by Mr. Adams. The next day the fetor entirely disappeared.

men of great experience, we shall find many points of interest undetermined, and others the subject of incessant controversy. Very frequently the description of the disease conveys only a lively picture of the uncertainty of the writer; and so vague indeed is the sense in which the term cancer is sometimes applied, especially by the French authors, that it will be quite impossible to recognise the complaint from their description.[1]

Denman fully appreciated the uncertainty of the descriptions generally given: he says, "Of cancer it is to be lamented we have at present neither a tolerable definition nor a correct history, nor any accurate distinction of the several varieties which are certainly known to exist. Nor is it yet proved whether cancer of any part has any specific quality, according to the structure of the part affected; nor have we, in fact, at present any other idea than that it is an incurable disease."[2] Very much light, however, has been thrown upon the subject, since the time of Denman, by both French and British authors, especially by the latter; and their more accurate information concerning elementary forms of disease generally, is beginning to be applied to the study of the morbid changes which take place in the uterus.

In a recent publication, remarkable as well for its minute accuracy as for its vast range of information, Dr. Copland has thus defined cancer:[3] "A disease often arising from hereditary predisposition, in the middle or advanced periods of life; commencing with a local hardness, which subsequently softens in its centre, infects the adjoining parts, and ultimately contaminates the frame." This appears to me to be as good a definition of cancer generally as any I have seen, and it applies equally to cancer of the womb.

Sir C. Clarke says,[4] "By carcinoma is meant that disease where there is a tumour near to, or a thickening of, the cervix of the uterus, which tumour or thickening is disposed to ulcerate.

Dr. Carswell (*art. Carcinoma*) remarks the impossibility of giving a precise definition of the disease. "It may, however, be said to consist in the formation or deposition of a peculiar substance, which presents great variety of consistence, form, and colour; frequently assumes a definite arrangement, and possesses a vascular organisation of its own; gives rise to the gradual destruction or transformation of the tissues in which it is situated, affects successively or simultaneously a greater or less number of organs, and has a remarkable reproductive tendency."

[1] M. Duparcque's definition of cancer is as follows:—"Nous donnons ce nom, relativement aux alterations organiques de la matrice, a toutes celles qui offrent les caracteres communs suivans:—1. De tendre á faire des progrès indefinis; 2. de tendre à se terminer d'une manière funeste; 3. et d'être en géneral jusqu'à prèsent au dessus des resources de tout traitement mèdical." Alterations organ. de la Matrice, p. 381.

[2] Midwifery, p. 116.

[3] Dictionary of Pract. Med. p. 282, art. Cancer.

[4] Diseases of Females, vol. i. p. 207.

This disease is frequently met with,[1] though perhaps not quite so often as is supposed, in consequence of too hastily pronouncing induration or ulceration, if malignant, to be cancerous. That this is the case with the French, we have the express testimony of a recent writer (Duparcque).

It rarely attacks young females, although such cases occur occasionally. I have seen it in a patient under 28 years of age. It is most common, after the period of child-bearing, about the "time of life," either before or soon after the cessation of the menses.[2]

Females of the lymphatic temperament seem especially obnoxious to its attacks. "MM. Breschet and Ferrus found 23 cases of this temperament, prominently marked, out of 44 cases of the disease." (Copland).

A distinction is made by most writers (Boivin and Dugès,[3] Duparcque,[4] Lisfranc, &c.) into cancerous ulcer and ulcerated

[1] In the Journal des Connoissances Medicales, for November, 1836, there are some investigations by Mons. S. Tanchon, as to the frequency of cancer. The sources of his information are the mortuary registries of Paris and the "banlieue." In 1830, there were 351 deaths from diseases of the female genital organs, and of these 183 were from cancer of the womb:—

In 1831 there were	379 deaths, of which	246 were from cancer.
In 1832	396	230
In 1833	498	250
In 1834	436	304
In 1835	508	285

[2] Out of 409 cases of cancer of the uterus, quoted by Boivin and Dugès, there were,—

Under 20 years of age,	12
From 20 to 30,	83
From 30 to 40,	102
From 40 to 45,	106
From 45 to 50,	95
From 50 to 60,	7
From 60 to 71,	4
	409

Some doubt may arise about this table from the very loose meaning attached by the French writers to the term cancer, especially in the earlier stages.

Dionis says that out of 20 cases, 15 occur between the ages of 40 and 45. Mr. Carmichael mentions a case of a girl who died of cancer uteri æt. 21. Wigand met with a scirrhous uterus in a girl æt. 14. (Jörg, Krankheiten des Weibes, p. 393.)

[3] Boivin and Dugès speak of "tuberous cancer," "ulcerous cancer," "fungous cancer," and "hematode cancer." The first answering to the carcinoma and cancer of English writers; the second, to the corroding ulcer of Sir C. Clarke; the third, to cauliflower excrescence, &c.; and the fourth, to fungus hematodes.

The indistinctness of the French writers on the subject of cancer is very apparent, even in this, their best work on diseases of females.

[4] M. Duparcque divides cancerous diseases into "ulcers carcinomateux," "exuberance ou hypersarcose," "engorgemens," and "ulcerations."

The first refers to those cases where the ulcer precedes the cancerous

cancer; in the former, the ulceration is the primary affection, and the morbid deposition but secondary; whilst in the latter the state of scirrhus precedes the ulceration. I shall not found any arrangement upon this, inasmuch as the first species is very rare indeed (if it occur at all in the uterus), and the distinction is without use in practice. Following the course of the disease, which in almost every case commences by a morbid deposition without breach of surface, and then after some time ulcerates by central softening, I shall consider separately the two stages of *scirrhus or carcinoma* and *cancer*. Yet as these are but two stages of the same disease, I shall not make two chapters, but under each head of pathology, symptoms, &c., speak first of carcinoma and then of cancer.

History and Pathology. I have already mentioned that several points in the history of cancer are as yet undecided, such as whether it is a disease essential to glandular structure, or whether this limitation applies to primary scirrhus only (Cooper). It is indisputable that in other parts of the body the ulceration may occasionally precede the cancerous deposition (Begin, &c.), but it is doubtful whether this is ever the case in the uterus. Again, it is disputed whether it depends upon a depravation of the nervous fluid (Schaeffer; Gaudet, &c.), or is in reality an hydatid (*hydatis carcinomatosa*), having an independent existence, developed in those parts of the body whose vitality is enfeebled, and the matter of which begins in some degree to be decomposed (Adams; Bacon; Carmichael,[1] &c.)

By Broussais and his followers it is, of course, attributed to chronic inflammation. (Begin; Breschet, &c.)

Andral and Copland regard it as resulting from an altered state of nutrition and secretion, terminating in ulceration.

Prof. S. Cooper considers it to be constitutional, and not dependent upon the local circulation.

Prof. Carswell thinks that the matter of scirrhus exists "not only in the molecular structure, and on the free surface of organs, but also in the blood." He further observes, "We cannot therefore limit the seat of this disease to any one tissue, or ascribe its origin to any modification of structure or special organisation, as has been done by several pathologists."

Dr. Hodgkin has endeavoured to prove that the presence of a

deposition; the second to fungous growths; and the two last, to what is described under the title of carcinoma and cancer in this chapter.

The third species (*engorgemens*) is again subdivided into "engorgemens cartilagineuse ou osseuse," "cancer squirrheux," and the "cancer mou ou sanguin."

Dr. Carswell (Elementary Forms of Disease, art. Carcinoma,) includes in the term carcinoma, "those diseases which have been termed scirrhous, common, vascular or organised sarcoma; pancreatic, mammary, and medullary sarcoma; and fungus hæmatodes;" and he divides these into two classes—scirrhoma and cephaloma.

[1] Essay on the origin and nature of Tubercular and Cancerous Diseases, p. 49.

serous membrane having a cystiform arrangement is necessary for the production of carcinoma.

Dr. Carswell denies the *necessity* of this, though he admits its occasional occurrence.

"Cruveilhier regards all organic transformations and degenerations as exclusively the result of the deposition of morbid products in the *cellular element* of organs. He believes that the '*tissus propres*' of organs are incapable of undergoing any organic lesion except hypertrophy and atrophy." (Carswell.)

As to its mode of deposition in the uterus, Sir C. Clarke describes two varieties in the early stage. "1. There is a firm tumour, of a rounded form, springing from the surface of the cervix uteri, or embedded in it, whilst the other parts of the uterus are perfectly healthy, except that its parietes are thickened as the disease advances, and that its cavity becomes larger than that of a healthy unimpregnated uterus.

"2. Instead of any distinct tumour, the whole of the cervix of the uterus becomes larger and harder; and if this thickened part is examined after death, by cutting into it, it puts on the same appearance which a regular carcinomatous tumour possesses."[1]

Some discrepancy of opinion exists as to the part of the womb most frequently attacked *first* by carcinoma.

It may certainly commence in any part of the uterus or appendages, but the cervix appears most liable to its attack.[2]

The surface of a scirrhous uterus is unequal, indented and

[1] Diseases of Females, vol. i. p. 211.

[2] Dr. Burns is rather doubtful about this; he says (Midwifery, p. 105), "As opportunities are not frequent of examining the womb in the early stage of the disease, and as, in course of time, it involves parts not at first affected, we have not yet decided what the comparative liability of different parts of this viscus is to the disease."

Sir C. Clarke is very decided upon this point; he remarks (vol. i. p. 208): "Carcinoma particularly affects glandular parts; and the cervix of the uterus being the most glandular part of it, is probably the reason why it becomes more liable to this disease than any other part of this viscus."

Bayerle and Wenzel agree with Sir C. Clarke as to the fact; but they attribute it to the greater exposure of the cervix to injury. (This, however, is not consistent with the occurrence of cancer in virgins.)

Siebold also considers the neck as the part most frequently attacked first. Fruenzimmerkrankheiten, vol. i. p. 623.

Dr. Blundell remarks, "The malignant ulceration of the uterus, it seems, almost invariably begins in the mouth and cervix. Are the glandulæ nabothi the cause of this? Are not the mucous glands in the lip a principal cause why the malignant change attacks this part? Is not the malignant disorganisation sometimes observed at the anus, the pylorus and the valve of the ilium, to be ascribed to the mucous glands there? and are not the glandulæ nabothi, that is, the large and numerous mucous glands in the neck and mouth of the womb, the cause why, in its commencement, the disease usually gives a preference to this part?"—Diseases of Women, p. 162.

Dr. Lee says that "it is not in the glandular structure of the os and cervix uteri that carcinoma generally commences."—Cyclop. of Pract. of Medicine, vol. iv. p. 394.

smooth, it forms an incomprehensible mass of different degrees of hardness (Duparcque), of varying magnitude, though seldom very large.[1] (Clarke.)

"The substance of a scirrhous uterus is, when cut into, (says Dr. Baillie,) thick and hard, and when its structure is examined, it shows a whitish, firm substance, intersected generally by strong membraneous divisions. This is the common appearance of the structure of scirrhus in other parts; and it differs less from the natural appearance of the structure of the uterus, than that of any other part of the body."

"When carcinomatous tumours are cut through with a knife, they offer a good deal of resistance, and appear sometimes as hard as cartilage. The cut surface presents an appearance of white lines which run pretty regularly with regard to each other, but the directions of which vary according to the shape of the tumour."[2] The white lines do not indicate malignant disease (Clarke).

Dr. Copland's observations are so much to the point, that it would be unpardonable to omit them. Scirrhus at the commencement "is distinguished by hardness, coldness, whiteness or paleness, insensibility and a deficiency of red blood vessels—a state indicating a low grade of vital endowment of the part.

"The scirrhous structure, when fully developed, consists of a firm, hard, rugged, incompressible and unequal mass, the limits of which are not distinctly defined. Its colour is generally of a light gray, and when cut into thin slices, it is semi-transparent. Upon close inspection, it is found to consist of two distinct substances;—the one hard, fibrous, and organized: the other soft and apparently inorganic. The former composes the chief part of the diseased mass, and consists of septa, which are opaque, of a paler colour than the soft part, unequal in their length, breadth and thickness, disposed in various directions; sometimes forming nearly a solid mass; in other instances, a number of cells or irregular cavities, which contain the soft part. This latter is sometimes semi-transparent, of a bluish colour, and of the consistence of softened glue; at other times more opaque, softer, somewhat oleaginous, and like cream in colour and consistence."

"The fibrous structure seems to be the cellular or proper tissue of the part, in a state of induration and hypertrophy; assuming, in consequence of its increased density and bulk, an appearance

[1] Astruc observes (Diseases of Women, vol. ii. p. 406), that "scirrhus of the uterus is a kind of tumour which has four essential characteristics: it is hard and resisting: insensible even when touched: gradually formed by way of *congestion:* and, moreover, does not change the natural colour of the part."

Scirrhus is further divided by him into general and partial, according to the amount of deposition, and perfect or imperfect, according as the tumour possesses little sensibility or none at all.

See also Manning, p. 267.

[2] Clarke, Diseases of Females, vol. i. p. 208.

similar to the fibrous or fibro-cartilaginous structure; whilst the softer portion, contained in the meshes or cells of the former, appears to be merely a morbid secretion poured out by the vessels nourishing the organised fibrous tissue, and is probably the exhalation of the part, either secreted in a modified state, or accumulated and changed by the disease of its containing structure. If this view be correct, the former or organised part may be considered as chiefly resulting from an altered state of nutrition in the seat of disease; whilst the latter, or inorganised portion, may be viewed as proceeding from a morbid secretion—the diseased structure thus being a product of a disordered state of both the nutritive and secreting functions, most probably in consequence of alteration of the vital influence, excited by the ganglial nerves on the capillaries of the part." "The proportion of each of these two substances, and the modes of their distribution, vary very considerably in different scirrhous masses."

"At the commencement of scirrhous disease, the structure of the tissue or organ (in this case, of the womb) in which it is seated, preserves for some time its aspect and colour, being changed merely in volume and density; as the disease advances, the proper tissue of the organ becomes more obscure, and verges nearer to that already described."

"M. Hechet, of Strasbourg, analysed 72 grains of scirrhous uterus, and found it to consist of 15 grains of gelatine, 10 of fibrine, 10 of oily or fatty matter, and 35 of water and loss."[1] (Lobstein).

"When minutely examined with a magnifying lens, the morbid substance of scirrhus looks like acicular lines, or granules, or ligamentous fibres, paler than the healthy structure of the part" (Hooper).[2]

b. Cancerous stage. The state of parts just described may continue for some time without much perceptible change, but, sooner or later, "portions of the scirrhous mass begin to soften, and pass into a state of unhealthy suppuration and ulceration;—unhealthy as respects the character and progress of these processes, and their contaminating influence upon the whole frame. The soft, or inorganic substance, resolves itself into a thin ichorous matter, very different from pus; and the disorganisation commences generally about the centre of the mass, and extending toward that part of it which is nearest either the surface of the body or any of the natural openings."[3]

In this stage the disease takes the name of cancer. The breach of surface most frequently commences at the cervix uteri,[4] it may,

[1] Copland's Dict. of Pract. Medicine, art. Cancer, p. 283.
[2] Morbid anat. of Human Uterus, p. 28.
[3] Copland's Dict. p. 284.
[4] "The ulceration almost always commences in the vagina, around the os uteri, extends along the cervicle portion, and destroys the greater part of the uterus."—"In this state, the ulcerations are covered with shaggy and fibrous portions; there is no appearance of healthy granulations, and the whole

however, attack other parts of the uterus first. The direction of the ulceration is very uncertain; sometimes the posterior wall, and sometimes the anterior, having the precedence.

The establishment of the ulceration appears to arrest the morbid deposition into the uterus, as that organ seldom increases in bulk after ulceration has commenced.

"When the skin covering a scirrhous tumour ulcerates, a fungus of a cauliflower appearance and hard grisly structure sometimes proceeds from the surface of the mass. In some cases, ulceration destroys both the fungus and the primary tumour."

"Cancerous tumours generally contaminate the glands in the vicinity, particularly after ulceration has commenced." In accordance with this statement, we find that the cancerous matter is not only deposited in the uterus, but that after a while the glands in the pelvis participate in the disease, and in some cases the glands of the groin also (Blundell).

Cancerous deposition also takes place into the cellular interspaces among the pelvic viscera, which are in consequence firmly agglutinated together (Hooper), and perfectly immovable.[1]

The vagina and bladder may also participate in the deposition, and become the seat, subsequently, of malignant ulceration. "I may add, moreover, that under these malignant disorganisations, vaginal and uterine, the *ovaries and tubes* are occasionally attacked with indisputable scirrhus, diffused or tubercular."[2]

Cancerous matter has been found in the lymphatic vessels leading from the pelvis, in the inguinal glands,[3] and even in the thoracic duct itself.

M. Andral recognised in it the walls of the thoracic duct, and Dr. Hourman[4] detected it free, both in the lymphatic glands, and in the thoracic duct.

It will be recollected, that in Dr. Copland's analysis of scirrhous structure, mention is made of a soft inorganic matter like glue, and

exhibits a sloughing pulpy surface"—Hooper, Morbid Anat. of Human Uterus. p. 28.

[1] See "Cases of Cancer Uteri," by W. F. Montgomery, M. D. in the Dublin Hospital Reports, vol. v. p. 413, case 1.

[2] Blundell on Diseases of Women, p. 159. See also Siebold, Frauenzimmerkrankheiten, vol. i. p. 624.

[3] Dr. Montgomery's paper in Dublin Hospital Reports, vol. v. case 2, 3.

[4] See his paper on cancer uteri in the Revue Med. Franç. et Etrang. for Feb. 1837.

It may be as well, perhaps, to quote the writer's own words. After describing the cancerous state of the womb and appendages, he proceeds:—"La masse de l'intestin grêle detacheê, une longue traineê de cordons noueux, formant un faisceau du volume du doigt indicateur et d'une coûleur jaunâtre, apparut de chaque cotê de la colonne lombaire. Ces cordons emergent du bassin et avaient leurs racines dans la masse cancèreuse de l'uterus, des parties laterales de laquelle ils se detachaient. En suivant leur trajet, on les voyait se porter de bas en haut au devant de l'artere et des veines ovariques qu'ils enveloppaient comme d'un canal. Arrivês à la hauteur des reins, ces cordons se renflaient considerablement, en meme temps, que leur modosités se multipliaient. La, ils quittent les vaisseaux ovariques et on les

the hardened hypertrophied cellular tissue, in the meshes of which the former is deposited. The learned author also observes, that the varied proportions of these constituent parts give rise to the different species of cancer. Of these, several have been described by authors; as, for instance, cephaloma,[1] hæmatoma,[2] sarcoma, fungus hematodes, &c.

Causes. a. Scirrhus. There can be no doubt that the disease is frequently hereditary, after the examples all have witnessed of mothers and daughters falling victims to similar attacks.

voyait se diviser en deux branches, l'une verticale, l'autre transversale. Celle-ci se recourbait vers la ligne mediane, et venait audevant de l'aorte s'unir à la branche transverse opposeè. Les branches verticales s'elevaient sur les cotès de la colonne vertebrale, et bientòt penetraient derriere l'aorte à travers les piliers du diaphragme. On les retrouvait dans la poitrine jusqu'à la hauteur de la onzieme vetebre dorsale, ou elles se terminaient au canal thoracique, la branche droite directement, la branche gauche par trois ou quatres rameaux qui gagnent le canal en passant les uns devant, les autres derriere l'aorte.

Une incision lineàire pratiquèe dans l'etendue d'un pouce sur une trainèe de nodositès, m'a permis de constater qu'elles n'etaient autre chose que les vaisseaux lymphatiques ovariques et tubaires remplis de la meme matiere encephalöide qui constituait le cancer de l'uterus."

[1] "This disease, which has been called the soft cancer of the uterus, consists of an organised, soft, vascular substance, that resembles brain in appearance and feel. The whole of the uterus is sometimes converted into this structure."

"A cephalomatous uterus is generally very much larger than a healthy one. The cut surface is of a pale yellowish flesh colour, more like to brain than any thing else. To the eye it does not appear very vascular; and when a portion is cut, the knife retains a humid paste or cream-like substance, which oozes also from the cut surface when moderate pressure is applied. The vaginal portion of the uterus is much enlarged in this disease, and the cervix is, in some cases, lost by the enlargement of the body having extended to the very lowest portion. The os uteri is mostly very open or widened; the labia or sides are very soft; and their internal surface, as far as the cavity of the uterus, is often ragged." Hooper's morbid anatomy of the Human Uterus, p. 15.

[2] "This occurs in the uterus as an organised, soft, vascular substance, resembling solidified blood, with an appearance here and there of spongy and more flesh-like portions."

"When divided, the cut surface of this disease is smooth, like firm coagulated blood, or like the albuminous part of the blood when solidified. Patches of vascularity, here and there, are distinctly seen, and in many parts the structure is fibrous and spongy. The knife is soiled that cuts the disease, and in most instances a humid, paste-like and somewhat reddish matter oozes from the cut surface when pressed." Hooper, p. 17.

Duparcque (p. 391) evidently regards the dark colour as owing to the effusion of blood in the cancerous matter.

Speaking of the varieties of scirrhoma, Dr. Carswell observes, "the deposit may be collected in numerous points in the form of a hard gray semi-transparent substance, intersected by a dull white or pale straw-coloured, fibrous, or condensed cellular tissue, and as such is commonly denominated *Scirrhus*. When it assumes a regular lobulated arrangement, so as to represent an appearance similar to a section of the pancreas, it forms what was called by Mr. Abernethy, the *Pancreatic Sarcoma*. Again, it may be disseminated uniformly throughout the texture of an organ which it converts

Perhaps, however, though the cancerous diathesis may be transmitted, the locality may be undetermined.

Females of the lymphatic temperament appear especially obnoxious to its incursions, and it is certainly much more frequent about the period of the cessation of the menses, than at any other time:—the anatomical peculiarities (see page 40) as well as certain menorrhagic attacks which prevail at that time, being evidently favourable to its development (see page 78).

Anxiety and the depressing passions, bad food, exhausting occupations, unhealthy localities, are all enumerated as predisposing causes.

External violence is mentioned by Leake,[1] as giving rise to it; but this may, perhaps, be doubted. Violence applied to the uterus itself has been assumed as a fruitful cause, and with much more appearance of probability; but even against this there is strong evidence, in the fact, that the disease is more frequent among virgins and those who have never borne children, and also, that it occurs at an age when these organs have, for the most part, ceased to be exposed to injury (Bayle; Cayol; Boivin and Dugès, &c. &c.)

Several French authors conceive that it may originate in a syphilitic affection of the constitution; but this point is by no means established.

b. Cancer. The change from scirrhus to cancer will certainly take place in the natural progress of the disease, without any special cause; but any irritation or violence applied to the part will probably hasten the progress. For this reason, excessive coition or childbearing may be followed by very serious consequences. If the patient take cold, and this be determined to the genital system (as weak points are generally attacked), it may issue in the setting in of ulceration somewhat prematurely.

Symptoms. These may be divided into the *mechanical*, caused

into a solid substance resembling a slice of raw or boiled pork, and it is then called by the French the *Tissu lardacé*. Lastly, when it presents the appearance of firm jelly, and is collected into masses of greater or less bulk in a multitude of cells, it is the *Matiere Colloïde* of Laennec, the *Cancer Gelatiniforme ou Areolaire* of M. Cruveilhier."

As to the second species of cephaloma and its varieties, Dr. C. remarks, that "when it presents the appearance of firm coagulable lymph or fibrine, deprived of the red colouring matter of the blood, possessing a uniform, fibriform, or lobuliform arrangement, with a certain degree of transparency and vascularity, Mr. Abernethy gave it the name of *Common Vascular*, or *Organised Sarcoma*. If it be uniformly disseminated throughout the texture of an organ, so as to transform it into a substance resembling a section of the mammary gland, or the udder when boiled, the appellation of *Mammary Sarcoma* was given to it by Mr. Abernethy. When it presents an appearance similar in colour and consistence to the substance of the brain, it was called *Medullary Sarcoma* by the same distinguished surgeon; *Matierè Cerebriforme ou Encephaloïde* by Laennec, and *Spongoid Inflammation* by Mr. Burns." Carswell on the Elementary Forms of Disease, Art. Carcinoma.

[1] On Diseases of Women, vol. i. p. 111.

by the bulk of the affected organ, and its relation to surrounding parts; the *physiological*, or those arising from the functional disturbance; and the *pathological*, dependent upon the morbid structure, and the diseased actions going on in it and extending to neighbouring parts.

The first and second class only are prominent in the scirrhous stage of the disease; the whole three, but especially the third, when it is transmuted into cancer. The mechanical symptoms predominate so long as the cancer is a distinct tumour.

We shall consider the two stages separately.

a. Scirrhus. The symptoms at first are very slight, and not such as to excite uneasiness; so that considerable progress has generally been made before the true nature of the disease is discovered. Frequently, some unusual irregularity of menstruation is the first symptom which excites attention; though, in many cases, the integrity of this function is long preserved (Siebold); and in others it will have ceased spontaneously (Boivin and Dugès). Some uneasiness may be felt on standing or walking, and a weight pressing down upon the perineum, as though the womb were about to fall through. Sometimes a degree of annoyance is felt on lying on one side or the other (Astruc).

As the bulk of the deposition increases, so does the mechanical inconvenience—the pressure upon the rectum is distressing, and gives rise to a supposition of piles, and the pressure on the bladder to a frequent desire to evacuate its contents, but seldom to any dysuria (Clarke). There is often an increased mucous discharge from the bladder.

The weight of the uterus occasions its descent below its natural level in the pelvis. As yet we observe but little pain; there is, it is true, occasionally, a lancinating pain through the pelvis, but these are not frequent until just before ulceration sets in.

The mucous secretion, at first, is scarcely increased (Siebold), as it is some time before the lining membrane of the uterus participates in the morbid action,[1] but at length we find a considerable discharge of a bland character, having none of the fetid and acrid qualities so offensive in the discharge from the ulcerated surface.

As this stage merges into the next, we may occasionally discern striæ of blood mixed with the discharge, and occurring during a menstrual interval.

If the tumefaction of the uterus or pelvic contents be very great, the patient may suffer from œdema of the legs, and in some few cases the tumour may be felt in the hypogastrium.

If a *vaginal* examination be made, we shall discover either of the two forms of deposition: as far as my experience goes, that one where the uterus is generally and pretty equally affected, is the more frequent. The cervix, and as much of the body as we can reach, feels tumified and hard, and the edges of the os uteri, instead

[1] Nauche, Mal. prop. aux Femmes, vol. ii. p. 589.

of being smooth and even, present one, two, or three deep notches, but without any breach of surface (Duparcque).

The os uteri is rather more open than usual, but the lips are rigid, and towards the latter part of the first stage, pressure on the cervix is occasionally painful; it is at this time that we first detect the commencement of that extension of the disease which ultimately involves the whole of the pelvic viscera. Up to this period, the increase in the bulk of the pelvic contents is sufficiently defined and limited to the womb itself, which is consequently as movable as its size will permit; but as the surrounding deposition increases, this mobility is diminished, until, in the second stage, the uterus is quite fixed.

It should also be mentioned, that when ulceration is about to commence, some part of the swollen and hard viscus may be felt softer than the rest, indicating the part to be first attacked, and this part will be both tender and painful.

If the *speculum* be used, the cervix appears swollen, tense, and shining—sometimes spongy, of a deep red or brownish colour. A fluid discharge occasionally escapes from the membrane covering it, in consequence of the pressure.

At an advanced part of this stage the stomach appears to sympathise with the local distress—the patient loses appetite, becomes dyspeptic, and suffers from cardialgia. Another symptom, not very unusual, is an eruption on the skin, generally of urticaria, which, for the time it lasts, is exceedingly distressing: Sir C. Clarke attributes it to the presence of acid in the stomach.

It is very remarkable that so grave a disease should not preclude the possibility of conception: several such cases are on record,[1] in some of which the child was delivered by the unaided natural efforts —in others, by version or the forceps. Out of seven cases, related by Mad. La Chappelle, four of the mothers recovered from the delivery.

b. Cancer uteri. How long the first stage may continue, it is impossible to determine; in some patients it may last for years (Jöerg), in others, for a much shorter period, dependent probably upon the constitution of the patient partly, and partly upon the influence of certain causes already enumerated.

The pathological change from scirrhus to open cancer is not more remarkable than the alteration and aggravation which is observed in the symptoms.

There are three new symptoms superadded, which deserve our utmost attention, and these we shall consider first,—viz. the pain —the hemorrhage—and the discharges.

1. *The Pain.* The character of this severe pain is described as *lancinating*, as though knives were plunged into the body; and so

[1] Zeppenfield, Diss. System. casum carcinomatis uteri cum graviditate conjuncti, Berol. 1828. Siebold, De Scirrho et Carcinomate uteri, &c. Mad. La Chapelle Pratique des Accouchemens, vol. iii. p. 368 and 371. Boivin and Dugès, p. 133. Lancette Française, Dec. 1836.

general is this, that it has been proposed as one distinction between this disease and corroding ulcer (Clarke). There are cases, however, where it is described as a burning pain (Capuron); others in which it is not severe or lancinating; and a third class who suffer no pelvic pain at all (Montgomery).

When present, it is generally constant, but aggravated by very severe paroxysms, which, commencing in the region of the uterus, shoot through the pubis and loins and down to the anus and thighs. So limited and yet severe is this about the rectum, that I have had patients in an advanced stage of cancer who came to consult me for what they assured me was only "bad piles." This sensation increases as the disease advances, and occasionally is the prominent symptom towards the close of the patient's life. In some cases, the warmth of the bed appears to increase the suffering (Capuron).

I have mentioned cases where uterine pain is absent altogether, and in some such which I have seen, *distant* pains[1] were all the suffering. I was lately requested to visit a patient in consultation with a very intelligent apothecary, whose testimony confirmed the statement of the patient, that she had never complained of pain in the uterine region, but, from the time when ulceration might be supposed to have commenced, she suffered excruciating pain along the course of the sciatic nerve down to the foot. What was still more curious, she experienced immediate and complete (though, alas, but temporary) relief from the sciatica by the use of an injection of nitrate of silver, which was ordered for the purpose of destroying the fetor of the discharge.

2. *The Hemorrhages.* These occur at an early period after the ulceration begins; indeed, in many cases, they seem to precede the pain, and are the first occurrence which excites alarm in the mind of the patient. They are frequently mistaken for a return of the menses, by females in whom that discharge has been for some years arrested, and I have known such treated as menorrhagia. I mention this for the purpose of showing the positive duty of making a vaginal examination, in every case when blood is discharged from the vagina, before deciding upon our plan of treatment.

The amount of sanguineous discharge varies a good deal in different persons; it is sometimes very large; the quantity of

[1] "But it also happens, not unfrequently, that they become gradually exhausted and debilitated through want of rest, occasioned by terrible pains in the hypogastrium or sacral regions, or in the loins, nates, iliac fossæ, and more frequently, all along the femora, either in the direction of the sciatic nerve, or in the region of the crural nerve,—pains seldom continual, but recurring in paroxysms, once, twice, or three times in a day, and lasting several hours at each time." "These pains are sometimes so acute, according to MM. Bayle and Cayol, that persons have been known to die of convulsion or delirium, occasioned by cerebral fever."—Boivin and Dugès, Diseases of the Uterus, p. 235.

See also case 4 in Dr. Montgomery's paper in the Dublin Hosp. Reports, vol. v.

successive discharges will also vary, but one point I have remarked in almost all cases, that the larger floodings occurred at an early stage of ulceration, and that, subsequently, the quantity lost was less each time, and the intervals greater.

The progress of the ulceration appears to be arrested for a short time after each flooding (Clarke); but if, in this way, some mitigation be afforded, the weakness resulting from the hemorrhage more than counterbalances the benefit.

3. *The Discharge.* Up to the actual commencement of ulceration, the character of the discharge does not vary from that of the usual vaginal secretion, it is merely augmented in quantity; but the moment the organic destruction begins, it is entirely changed. Its odour becomes almost insupportably fetid, so much so as to constitute a great part of the patient's distress; for, besides proving an annoyance to herself, it almost forbids that degree of personal attention on the part of friends, upon which so much of the soothing of a sick bed depends.

The colour of the discharge varies from a dirty white to dark brown, green or black; now and then it receives a tinge of colour from the admixture of a small quantity of blood; it is most generally a very thin serous fluid,[1] secreted very copiously, and containing occasionally flocculi of lymph or coagulated discharge.

It is ordinarily acrid, but sometimes much more so than at others, and, in consequence, the inner surface of the labia is very tender, and there is a ring of excoriation around the orifice of the vagina, extending to the anus, and sometimes even down the thighs. This gives rise to incessant itching and soreness of the vulva, and, of course, the distress of the patient is greatly aggravated; it also renders a manual examination very painful. From the same cause, probably, the vulva is liable to a flabby swelling or erisepelatous inflammation (Burns[2]).

After the continuance of the disease for some time, the bladder begins to sympathise; there is a mucous deposition from the urine (Burns), and some dysuria, probably owing to a thickened state of the urethra and meatus urinarius. The difficulty is sometimes so great as to require catheterism, an operation calling for great tenderness and tact under such circumstances. At a more advanced period, the ulceration will probably reach either the bladder or rectum, or, very rarely, both. For some days before the perforation of the bladder takes place, there is more or less retention of the urine, and consequent dilatation of the ureters, which are found thin, distended and diaphanous after death. (Montgomery.) The urethra, from disuse, becomes greatly reduced

[1] "The *cancerous sanies* is generally very fluid; but its appearance varies with the treatment, the situation of the disease, and the diet of the patient. It is generally of a grayish white or reddish gray; it slightly effervesces with sulphuric acid, and turns syrup of violets to green."—Copland's Dict. of pract. Med. p. 285.

[2] Midwifery, p. 105.

in calibre after the rupture of the bladder. The bladder appears to be more frequently affected than the rectum, owing to its greater proximity, and there being less cellular tissue interspersed.

The escape of the contents of either viscus is a new and fearful source of irritation to parts already irritated, and an additional distress to the patient and those around her. The involuntary escape of the urine is, perhaps, the most mischievous, as it runs down to the nates and thighs, and may give rise to excoriation and sloughing of those parts.

Before the destruction of the walls of the uterus, the patient suffers great pain from going to stool, partly owing to the forcing the contents of the abdomen down upon the diseased mass in the pelvis, and partly from the pressure of the fæces in their passage through the rectum.

The information obtained by a *vaginal* examination will vary a little according to the period at which it is made.

We shall discover a hard, unequal, *immovable*[1] mass filling the pelvis, and about the centre a perforation, which is the os uteri. This is rather more open than natural, and its borders are thickened and hard. It is also lower in the pelvis than usual.

The ulceration may easily be discovered by the loss of substance; it may eat completely round the cervix, so as to destroy it evenly, or the anterior or posterior half alone may be affected, and ultimately the bladder or rectum.

The ulcerated surface is rough, unequal, and tender on pressure, and the finger, when withdrawn, is covered with fetid sanies, and occasionally tinged with blood.

In some instances we feel a fungous substance projecting from the os uteri instead of a depressed ulceration; it is rough, unequal, and tender, and will be found to spring from an ulcerated surface, and to be, in its turn, the subject of ulceration.

The state of the vagina, as to its calibre and sensibility, should be carefully examined, as the morbid deposition is apt to spread to the sides of the vagina, and even to the bladder.

When there is a fistulous opening into the bladder, allowing of the escape of urine through the vagina, some chemical action often takes place between the urine and the discharge from the ulcer; flocculi of coagulated lymph are formed, which adhere to the rugæ of the vaginal mucous membrane, and upon which is deposited a quantity of the earthy matter contained in the urine. The surface of the vagina thus acquires a roughness and inequality which might mislead us to conclude that it participated in the ulceration.

It is seldom that the *speculum* can be introduced, on account of

[1] Dr. Blundell speaks of the *mobility* of the uterus in some of the "malignant genital disorganisations," and its immobility in others, without attributing either as a characteristic to any special disorganisation, but merely referring to their bearing upon the question of excision or extirpation. Diseases of Women, p. 165.

the extreme pain it occasions. When it is possible, it merely adds an acquaintance with the colour of the surface of the ulcer to the information derived from an examination with the finger.

The ulcerated surface is of a grayish colour—occasionally dark brown; its edges are of unequal elevation, and very irregular.

So far the local symptoms have alone been mentioned; but we should anticipate great constitutional disturbance likewise.

The circulation is hurried, the pulse small, quick, wiry and concentrated, until reduced in force by the repeated hemorrhages. In some cases we meet with the perfect simulation of heart disease (Montgomery). "There is a slow fever," says Leake,[1] "attended with night sweats, an habitual diarrhœa, pain, and want of rest." The skin during the day is hot, dry, shrivelled, and yellow, or of a leaden colour (Capuron). There is great emaciation;[2] the fat is all absorbed, the muscles wasted, the eyes sunken, and the patient ultimately resembles a living skeleton. The appearance, however, is totally different from that of a phthisical patient. There is a sharp, distressed expression about the countenance in cancer—very different from the look of exhaustion we observe in phthisis. The features are all drawn upward, the result of severe pain, and they are also very prominent, as though the skin were merely stretched over the bones.

The discoloration of the skin, which has been mentioned, also extends itself to the other tissue (Duparcque).

The stomach soon sympathises with the organic distress. The appetite gradually diminishes, and ultimately almost ceases; digestion is performed very imperfectly; the patient complains of nausea, with occasional vomiting—and sometimes of a burning heat in the region of the stomach, extending to the intestines. There is intense thirst. Diarrhœa alternates with constipation,[3] and it is difficult to say which occasions the most distress.

[1] On Diseases of Women, vol. i. p. 114.

[2] "The characters of this *cancerous cachexia* are, emaciation; softness and flaccidity of the soft solids; œdema of the extremities; hectic fever; a peculiar change of the complexion and colour of the whole surface of the body, which becomes of a pale leaden, or pale straw colour or waxy hue; and general depravation of the functions. This state of cachexia increases with the progress of the disease, and augments at the same time the primary local change. It is rapidly developed and increased when the scirrhous mass ulcerates, when also carcinomatous tumours frequently manifest themselves in various parts of the body. Ultimately the circulating fluid is deficient in quantity, and is poor and morbid; and the vital cohesion of the soft solids and even of the bones, is diminished."—Copland's Dict. of Pract. Med. p. 285. See also Blundell, Dis. of Women, p. 165. Dict. des Sciences Med. art. Cancer Uteri. Cyclop. of Pract. Med. vol. iv. p. 396.

[3] There is sometimes a special cause for the constipation in an enlarged condition of the pelvis glands, which may so press upon the rectum as actually to arrest the passage of fæces. Dr. Montgomery (Dub. Hosp. Reports, vol. v. p. 424), relates such a case, and he quotes (from the Ed. Med. Journ. Jan. 1829, p. 220), a still more remarkable one, where "constipation was induced by this kind of compression, and lasted *nine weeks;* all efforts to

The abdomen is sometimes soft and flaccid, and at other times tense and painful (Nauche). It is, however, extremely rare to meet with peritonitis;[1] for, although the ulceration may arrive at the outer side of the peritoneum, it rarely perforates it, unless aided by some sudden effort (Montgomery). In one of Dr. Montgomery's cases, there was general anasarca.

The surface of the tongue is often dry and glossy, especially towards the latter stages of the disease; and it may either be pale or deep red. It is often sore, and small sores of an intractable character form at the angles of the mouth. Occasionally, aphthous patches are observed in the mouth, and also in the vestibulum and around the anus.

Leake[2] enumerates pain in the breasts among the symptoms of cancer uteri.

Although the series of symptoms I have described, are observed in most cases of cancer of the womb, yet, of course, in each case there may be some peculiarity. In one case, there may be little or no pain; in another, no hemorrhage; in a third, the fever may be less distressing.

In cases of cancer of the bladder and vagina, the uterus may be scarcely affected at all, and yet the symptoms be just the same as in cancer uteri, only that an unusual degree of sensibility, may be remarked about the vagina. There is a mistake into which we might easily fall with such cases—as the cavity of the pelvis is not as full as in ordinary cases of cancer, the uterus is more movable than usual, and the disease might be supposed to be corroding ulcer of the womb.

In some cases of long duration, a deposition of cancerous matter takes place in certain organs—principally the liver and lungs, although it has been found in others: Dr. Blundell[3] mentions that he has never seen a coincident deposition in the mammæ and uterus. Of course this deposition gives rise to a secondary train of symptoms and functional disturbances (such as cough, &c.), but which are unnoticed in the magnitude of the primary phenomena.

Prognosis. The prospects of the patient are in all cases unfavourable: there is no hope of cure, and but little of any decided mitigation of the agonizing suffering entailed by the complaint.

procure the passage of the fæces, either by injections thrown up in great quantities or by bougies, completely failed."

[1] Dr. Lee speaks of death being the result of peritonitis, caused by the nearness of the ulcer to the peritoneum. He also mentions, that the ulcer sometimes penetrates the peritoneum covering the uterus, and he relates two interesting cases—one where "the peritoneum of the fundus uteri had been perforated by gangrene," and another where the ileum had first been united to the uterus by lymph, and then penetrated by the ulceration, and in consequence, "for many months before death, the fæces did not pass along the colon, but into the vagina through the opening in the ileum." Cyclop. of Pract. Medicine, vol. iv. p. 395.

[2] On Diseases of Women, vol. i. p. 117.

[3] Diseases of Women, p. 161.

The length of the disease will depend a good deal upon the character of the patient's constitution; the hemorrhages, although they may ameliorate or even appear to arrest the progress of the ulceration for a time, must inevitably weaken the patient and diminish her powers of resistance. It is really wonderful to see how long life will endure, notwithstanding the formidable combination of local ulceration, wasting fever, agonizing pain, and flooding. The patient ultimately dies of exhaustion, caused by the fever and hemorrhages, or by the occurrence of peritonitis or enteritis.

Diagnosis. a. Scirrhus. It may be distinguished—1. *From simple induration*, by being less red than vascular, but harder and more lobulated; by the deposition into the surrounding tissues and by the diminishing mobility of the uterus.

2. *From fibrous tumour*, by being more lobulated, less defined, and ultimately by the pain and ulceration.

3. *From tubercles &c. of the uterus*, by the hardness and extent of the disease, by the pain, discharge, and course of the complaint.

4. *From moles, hydatids, &c.* by the greater hardness and the spreading into the neighbourhing tissues, and by the termination of the two diseases.

5. *From early pregnancy*, by the hardness of the uterus, its slow increase, by the persistence of menstruation generally (Siebold[1]), and the absence of all the "signs of pregnancy."

b. Cancer. The disease with which cancer is most likely to be confounded, are, simple ulceration of the cervix uteri; corroding ulcer; and syphilitic ulceration. The characteristics upon which the diagnosis must be founded are, the local deposition; the extent of ulceration; the character of the affected tissues; the fixedness of the uterus; the great general distress; the fever; and the fatal termination.

It may be distinguished, 1. *From simple ulceration of the cervix uteri*, by the increased size of the womb from morbid deposition; by the greater depth of the ulceration; by the fetor of the discharges; by the immobility of the uterus; and by the severity of the constitutional symptoms.

2. *From corroding ulcer*, by the immobility of the uterus, and by the filling up of the pelvis by morbid deposition.

3. *From venereal ulcers*,[2] by the morbid deposition and immo-

[1] Siebold conceives that it may occasionally be mistaken for *excessive* and *painful menstruation;* from which it will be distinguished by an internal examination, and by the continuance of the pain after the hemorrhage has ceased. The pain of dysmenorrhœa is limited to the monthly periods. (Handbuch zur Erkenntniss und Heilung der Frauenzimmerkrankheiten, vol. i. p. 638.)

[2] When speaking of venereal ulcers of the uterus, Mr. Pearson remarks, "In every case that I have yet met with, the uterus retained its natural pendulous state: there was no eversion, nor remarkable dilatation of the os uteri; the ulcers were smooth and even; there were no fungi, nor any unnatural alteration in the structure of the vagina; the pain attending this form of the disease was neither constant nor acute. The venereal ulcers of the

bility of the uterus; by the depth and irregularity of the ulcerated surface; by the severe pain, and the intractable nature of the complaint.

Treatment. *a. Scirrhus.* A great number of remedies have been employed against what different medical practitioners have called scirrhus, and, according to their testimony, with beneficial effects. Thus Manning[1] relates a case of incipient scirrhus cured by cicuta. Stock, Nauche,[2] Boivin and Dugès,[3] Recamier, &c. believe in the curative properties of hemlock. Bitter tonics with alkali (Peyrilhè); Belladonna with rhubarb (Evers); Hydrochlorate of baryta (Crawfurt); Cyanuret or hydrocyanate of lead in doses from gr. ss. to gr. iii. or gr. iv. in the day (Nauche); Oxyde or muriate of gold (Chrestien; Nauche); with many others, have been supposed to exert more or less influence upon scirrhus and cancer.

Whether so formidable a disease is curable even in the earliest

uterus yield to the same mode of treatment, that is generally employed for the lues venerea."—Principles of Surgery, p. 120.

[1] On Female Diseases, p. 272.

[2] Mal. prop. aux Femmes, vol. ii. p. 598.

[3] Diseases of the Uterus, p. 239.

See also Rust's Magazine, vol. xlvii.; the Lancet for Oct. 1, 1836; and the Dublin Journal, No. 31.

For a long list of supposed remedies, the reader is referred to Astruc on Diseases of Women, vol. ii. p. 121.

Dr. Copland has enumerated the more important medicines which have been recommended, with the names of their advocates. The list I shall extract, slightly abridged. In the early stage; *Conium*, alone or in combination with alkaline tonics, &c. recommended by Gessner, Girard, Hufeland, Hahnemann, and Thilenious. *Electricity* and *Galvanism*, by Brisbane and Walther; *the muriate of baryta*, by Hufeland; *antimonials*, by Rowley and Dowman; *aconitum*, by Greding; *digitalis*, by Ruysch, Thilenius, and Harris; *sal. ammoniacum*, by Justamond; *belladonna*, by Gataker; and *the mezereon*, by Home.

In the more advanced stage, besides *conium*, *belladonna* has been advocated by Alberti, Lambergen, Bellot, Lentin, Camperdon, Sulzer, and Granvilliers. *Arsenic*, the grand staple of quack medicines for cancer, by Justamond, Stark, Rush, Fircher, Michaelis, Reussner, Hill, &c. &c.

Mercury, as an alterative or wash, is approved of by Mosely, Gooch, Gmelin, Hagen, Gataker, Chapius, Büchner, and by Sir Astley Cooper. *The preparations of iron*, by Justamond, De Marc, and Carmichael. The distinguished surgeon last named prefers the sub-phosphate, combined with a little pure fixed alcali. *Lead*, by Gessner, Shoenheyder, Horstius, &c.; the *solanum dulcamara*, by Gataker, Oribasius, and Carere; the *volatile and fixed alcalies*, by Barker, Martinet, and Barbette; *antimonials*, by Rowley, and Theden; *barytes*, by Crawford; *cinchoma*, by Homberg, Vieussens, and Plenck; *the expressed juice of the chelidonium and the sulphate of zinc*, by Berchelmann; *lime water*, by Vogel; *the orobanche viginiana*, by Barton and Bensell; an ointment with the *juice of the bardoma* and *acetate of lead*, by Percy, the *sedum acre*, by Buchoz and Quesnai: the *onopordum acanthium*, by Goelicke, Handel, Juncker, and Ross; *myrrh*, by Nicolas; *fixed aires*, by Beddoes, Ingehousz, Percivel, Peyrilhè; *hydrosulphuret of ammonia*, by Burns; *petrolium*, by Ramazzini and Pierce; *the rhododendrum chrysanthemum*, by Pallas; &c. &c. &c.—Dictionary of Practical Medicine, p. 286, 287. 288.

stages, is, to say the least, very questionable. I confess, that after an attentive investigation, my own belief is, that it is not curable. It is not intended, however, for a moment to question the veracity of so many able men, but merely their diagnosis.

I shall, in this chapter, confine myself to pointing out certain *indications*, the fulfilment of which is, to a great extent, within our power. First, our efforts should be directed to render the progress of this stage as slow, and its transmutation into cancer as distant as possible. If we compare the symptoms which arise in the two stages of the disease, the reason of this direction of our remedies, will be obvious. Scirrhus gives rise to but few symptoms, and it is only the mechanical ones which cause any distress; but cancer entails greater suffering than almost any other disease to which the female is obnoxious, and terminates fatally. So long therefore as the complaint can be kept in the first stage, the life of the patient is in no immediate danger, and her comfort but slightly interfered with.

In furtherance of our object, of course every possible *cause* must be removed, and any habits which may be injurious, must be altered. Sir C. Clarke recommends the occasional abstraction of blood, either by cupping the loins or the application of leeches to the vulva, and this from observing the effects of the spontaneous hemorrhage in arresting the progress of the complaint. Care must be taken that the quantity lost is not so great as to injure the patient. It will become absolutely necessary, in case inflammation should arise in any neighbouring organ.

Some slight and occasional counter-irritation may be useful, such as a blister to the loins, or even a seton in the thigh (Joubert[1]).

Iodine deserves a more extensive trial than it has yet had. It has been beneficially employed by Dr. Wagner[2] and Mr. Hill. Dr. Copland speaks favourably of it.[3]

Iron and its preparations will always be found beneficial.

The bowels must be kept free, and saline purgatives are the best, because of their causing fluid stools, which are not likely to irritate the womb in their passage through the rectum.

As to direct applications to the uterus, Leake[4] recommends vaginal injections containing lead, and, at a more advanced period, narcotic enemata. I do not see any objection to either, though I would not give the vaginal injections with the view of arresting

[1] "M. Joubert states that he has found local blood-lettings and the following pills most serviceable in the different stages of cancer:—

R. Saponis medic. ʒiv; Gum. ammoniaci, ʒii; Extract. conii, extract. aconiti āā ʒiss; Massæ Pil. Rufi, ʒi; M. contunde benè simul, et divide in pilulas gr. v.

"He directs two of these to be taken night and morning, increasing the dose by an additional one daily, until twelve, fifteen, or even twenty are taken, morning and night."—Copland's Dict. art. Cancer.

[2] Revue Medicale, June, 1823.

[3] Dictionary, art. Cancer.

[4] Diseases of Women, p. 124.

the discharge; for the little which comes away in this stage is probably rather beneficial than injurious.

If the lead be objected to, an injection of warm water should be thrown up, at least once a day, for the sake of cleanliness, care being taken that the pipe of the instrument do not strike against the cervix.

Hip baths occasionally may be of service (Blundell).

Great benefit has been said to have been derived from very spare diet (Leake). Burns quotes Ponteau and Pearson, as witnesses to its good effects.

The patient should be comfortably clothed, as keeping up the cutaneous circulation may act as a derivation from the uterus.

The urticaria may be relieved by an occasional purgative of rhubarb and magnesia, with some bitter infusion.

As to the management of the delivery, if the patient be pregnant—we must be entirely guided by the nature of the individual case. It may be terminated by the natural powers alone (Bayle; Cayol; La Chapelle, &c.); it may require the turning of the child (Siebold); the application of the forceps (La Chapelle); incisions or vaginal hysterotomy (La Cchapelle, &c.) Whatever way the labour may terminate, the ultimate effect will probably be, the conversion of the scirrhus into cancer.

The application of belladonna has been strongly recommended for the purpose of assisting the dilatation of the os tincæ.

As the first stage approaches its termination, the increasing pain will demand the employment of some narcotic.

Conium combined with alkaline tonics or stomachics, is recommended by many authors, and I have seen much relief derived from it. Hyoscyamus is also useful, and they have at least this advantage, that they do not affect the head or confine the bowels, and they leave opium for a still greater extremity.

b. Cancer.[1] When once ulceration has commenced, the treatment is not only more complicated, but less effective in the attainment of its object. The rapidity of the progress of the disease is greatly increased, and, though it may vary at different times, it can scarcely ever be said to be stationary.

And although it must still be an object to retard the downward course of the disease, we shall find it even more necessary to be cautious in the means employed; the patient will not now bear the

[1] "I conceive that the treatment of this disease (cancer) should be directed to the fulfilment of the following intentions:—1st, To support the energies of life by exciting the digestive functions, and the abdominal secretions and excretions; 2dly, To soothe the morbid sensibility of the part, and promote the absorption of morbid depositions in its tissues, by means of anodynes combined with deobstruents and discutients; and 3dly, To impart vigour to the frame by suitable medicines, diet, and regimen. The remedies which are calculated to fulfil the first indication, may be often conjoined with those intended to accomplish the second and third; and both internal and external means may be simultaneously used with this view." Copland's Dictionary, p. 289.

loss of blood she could before. A very few leeches may be applied, if necessary, and counter-irritation to the sacrum; but both must be proportioned to the strength of the patient.

In addition, we must combat any complications which may arise, by the gentlest means likely to be effectual, and adopt every possible method of mitigating the suffering and supporting the strength.

Narcotics are almost always necessary, and it is as well to commence with the less powerful, such as conium, hyosciamus,[1] belladonna, &c. in appropriate doses. A dose should always be given at bed-time, in order, if possible, to insure the patient a quiet night. The dose must be increased every five or six days, and ultimately we must have recourse to opium.[2]

Along with the benefit hence derived, there is always one ill effect, viz. the constipation, against which our efforts must be directed, as it occasions great torture. A little castor oil, a few grains of rhubarb, or any mild aperient, should be taken now and then; or the bowels may be freed by enemata. This latter operation is one of some delicacy, in consequence of the near neighbourhood of the disease.

Some have found great benefit from the exhibition of the extract of stramonium in grain doses three times a day (Sir A. Cooper).

Iodine has been tried with temporary benefit (Montgomery), but with ultimate disappointment.

Great cleanliness is, of course, a "*sine quâ non*," in order to prevent excoriation, and to lessen the infected odours of the sick room.

Vaginal injections of warm water or mucilaginous fluids, should be thrown up two or three times a day, as well for the sake of cleanliness as for their soothing effect. Capuron adds opium to the injection; others have recommended extract of conium. Various other injections have been advised, such as decoction of carrots; warm water (a pint) with acetic acid (half an ounce), or nitric acid (ten drops), or acetate of lead (half a dram). The object of such, is to soothe the parts and to moderate the discharge; if this be very profuse, we are advised to use solutions of stronger astringent powers, *e. g.* of sulphate of zinc, alum, &c. They are also said to be beneficial in restraining the hemorrhages. If the flooding be excessive, it may in general be arrested by the application of cold to the vulva, and by keeping the patient very quiet. Dr. Blundell

[1] My friend Dr. Watson informs me, that he has found a compound of extr. conii, hyosciam. and acet. plumb. applied to the surface of the ulcer by means of a speculum, very successful in diminishing the floodings and in mitigating the pain.

[2] "It may not be uninteresting to remark," says Dr. Montgomery, "that in this case, and indeed in every other of the same kind, I have found the acetum opii more effectual for the alleviation of pain and for procuring sleep, than any other preparation of that medicine, and it seems to agree best when given in the form of an effervescing draught, or what appeared to answer still better, with cinnamon water and syrup of ginger."—Dublin Hospital Reports, vol. v. p. 422.

adds the use of the plug, but this will require great caution, as the vaginal canal is often so tender as to preclude the introduction of a foreign body.

I must confess, however, that except their soothing effects, I have seen but little benefit from injections. Some have been tried and commended, which are said to remove the fetor of the discharges, and also to produce a good effect upon the surface of the ulcer; such, for instance, as solutions of the chlorides of soda or lime (Labarraque, Duparcque, Martinet).

Some time ago, I ordered injections of nitrate of silver (gr. x. to ℥i. of water twice a day), in a case of cancer, in hopes that it might arrest the ulceration; in this it failed, but I found that it afforded great relief in two particulars: first it destroyed the excessive irritability of the ulcer and diminished the pain, and secondly it entirely took away the fetid smell of the discharge; this latter effect was pointed out by the patient herself. I have tried it several times since, and always with the same good effect; I therefore feel justified in recommending it to the profession in this disease.

The sympathetic, and even distant, pains which I have noticed (page 177) are often and most effectually relieved by injections thrown up to the uterus; in the case of sciatica which has been mentioned, the injection of nitrate of silver was scarcely given before some mitigation of the pain was perceived, and, after two or three more, it ceased altogether for some time.

In a late number of the "Journal de progrès de Médecine," Dr. Bruni relates a case, which, he says, was cured by injections of hydrocyanic acid.

A more direct attack upon the ulcer, at an early period, has been made by the application of caustic—caustic potash seems to have been the kind most frequently tried. (Dupuytren, Nauche,[1] Boivin and Dugès,[2] Lisfranc.[3]) I am not aware, however, that the benefit has been such as to encourage the repetition. It is to little purpose that the surface of the ulcer be destroyed, when malignant deposition occupies the substance of the uterus, or the neighbouring organs.

The distressing state of the stomach will be relieved by aromatics combined with opium, or by aromatic stimulants. A draught containing opium confection, compound spirits of sulphuric ether, and spearmint water, is very useful.

Prof. Montgomery succeeded in relieving the sickness temporarily, by applying lint soaked in acet. opii over the stomach.

A little blue pill with rhubarb will act beneficially and mildly upon the stomach and bowels.

At the utmost, we can but expect some temporary relief from the measures already recommended, and we have the melancholy

[1] Mal. prop. aux Femmes, vol. ii. p. 616.
[2] Diseases of the Uterus, &c. p. 240.
[3] Mal. de l'Uterus, p. 345.

prospect of seeing our patient descend to the grave amid agonies as insupportable as hopeless. For such cases, no remedy has been supposed too desperate which afforded even the slightest chance, and where medicine has so signally failed, the aid of surgery has been called in, and according to the extent of the mischief, either *excision of the cervix* or *extirpation of the whole uterus* has been proposed. I have hitherto deferred entering into a full investigation of the merits of this formidable operation, because it is as a remedy for cancer of the womb that it has been generally, though not always, practised, although it rather appears to me that the actual development of cancer would be a strong reason why such an operation should not be undertaken.[1]

The question very naturally divides itself into two parts, the first relating to the *excision of the cervix uteri*, and the second to the *extirpation of the whole organ.*

I. *Excision of the neck of the uterus.* This is an operation which has been performed repeatedly on the Continent, though but rarely in this country, and opinions as to its propriety and safety have varied very much.

Osiander excised the cervix, with more or less of the body of the womb, nine times with success,[2] the subsequent hemorrhage being easily restrained.

M. Dupuytren[3] performed the operation fifteen or twenty times with success.

M. Hervez de Chegoin also operated successfully in one case related by M. Duparcque.

But the great advocate for this operation (the *apostle* of excision, as Dr. Balbirnie would call him,) is M. Lisfranc. On his evidence, professional men were almost persuaded that it was as simple and

[1] M. Duparcque's conclusions on the subject of cancer generally, are as follows:—

1. The greater part of confirmed cancers of the womb succeed to congestions and ulcerations capable of being cured; we may then, to a certain degree, prevent the development of these maladies by properly treating, at an early period, the primary pathological states of which they are the consequence.

2. Once fully developed, confirmed cancers are, at present, beyond the resources of medicine: even surgical treatment, which offers some chance when the disease is limited to the neck of the uterus, is of no service when the entire organ is affected.

3. In all cases, a well directed palliative treatment of symptoms will arrest the progress of the complaint, render it in some degree stationary, and relieve the most painful symptoms and the gravest "accidents," or at least so far mitigate them as to render less painful the approach of death.

4. All the cases of extirpation which have been published, were so at a period too near the time of the operation (four, five, or six months at most,) for us to judge fairly of it. It is probable that a greater delay would have afforded even less encouragement.

[2] For a succinct account of Osiander's views, see Edin. Med. and Surg. Journal, vol. xii. p. 286.

[3] Duparcque, Traité des Alterations, &c. p. 437. Journal Gen. de Med. vol. cix. p. 214.

safe as his cases were numerous. It has been shown, however, by M. Pauly,[1] that his operations were fewer in number than was asserted, and that so far from being either safe or successful, several died within twenty-four hours after the operation, and a considerable proportion (more than two thirds) were ultimately lost.

In consequence of this discovery the operation is now regarded with great suspicion.

MM. Blandin and Velpeau have both lost several patients after it, and the latter observes :[2] "Without entering into the question, whether excision of the cervix uteri may not have been frequently performed in cases in which there was no cancer, I will merely observe, that M. Dupuytren, who has, as it were, naturalised the operation in France, seldom has recourse to it at the present moment; that M. Lisfranc, who has so often succeeded in it, appears to adopt it less frequently than heretofore; and that according to M. Heisse, Osiander discontinued it some time before his death."

There cannot be a doubt, that among the French this operation has been frequently performed without any necessity (Duparcque).[3]

[1] 1. Instead of the 99 operations stated by M. Lisfranc to have been performed by him, only 53 can be made out.

2. There are no exact accounts of the failures which happened in hospital.

3. Out of nineteen private patients operated upon, only one has been permanently benefited.

4. Of these 19 cases 4 died within 24 hours, 12 had an immediate relapse, and in 2 others, the carcinoma not being entirely removed, the patient only sank the more rapidly.

5. Out of 9 patients operated upon under M. Pauly's observation, and near whom he remained 24 hours, 6 were attacked with frightful hemorrhages; and of these 6, 3 died within 24 hours.

In addition, abundant proof is afforded, that in many cases excision was utterly uncalled for by the nature of the disease (p. 476). Such facts are enough to deter the most hardy from attempting this fearful operation, and the exposure of such misstatements is a striking lesson to all who, in order to make a reputation, are ready to forsake the paths of honour and truth. Lisfranc, Mal. de l'Uterus, p. 427, et seq.

[2] Nouv. Elemens de Med. Operat. 1832.

[3] Speaking of amputation of the neck of the uterus, M. Duparcque observes:—"Judging of the facts generally by those cases which I have examined, I am persuaded that amputation of the neck of the uterus has been practised in a great number of cases where it was at least useless. Among the numerous 'preparations' which have been carried about in triumph to the different medical societies by the most intrepid leveller ('*niveleur*') of uterine necks, we and many others have seen necks and portions of the neck of the uterus which had been removed as being affected with scirrhous engorgement, but which did not even offer the appearance of this state. The 'souplesse' and the softness of the tissue of the portion removed, which was merely congested, and in which the parenchyme of the organ could be distinctly recognised, indicated sufficiently plainly that the part had been the seat of chronic inflammation, simple congestion, or merely hypertrophy. The deceitful hardness was caused by the fluid in circulation or infiltrated, and its escape after the operation had restored the portion amputated nearly to its natural condition."—Traité des Alterations, &c. p. 437.

I am not aware that any attempts have been made in Great Britain to excise the cervix uteri. The feelings of the most judicious practitioners are decidedly against it.

Prof. Montgomery[1] says, "I feel quite prepared to declare my conviction of its almost universal impracticability, and of its utter inutility when the disease really exists and is developed."

Dr. Blundell[2] remarks, "that an operation of this kind is quite out of the question."

Dr. Robert Lee[3] observes, "From what has been stated in the course of these observations, it must appear unnecessary to pass a sentence of condemnation upon the practice of removing the uterus, either wholly or partially, when affected with malignant disease. The operation appears to be equally cruel and unscientific."

Although I am disposed to agree with the distinguished authors just quoted, I think it my duty to go into some details touching the operation, because of its high authority, and because the best check to its being attempted unnecessarily, is a thorough knowledge of the circumstances which are supposed to authorise it, and of the best mode of performance.[4] I would merely wish it to be borne in mind, that I am rather quoting the sentiments of others than giving my own.

1. As the only hope of benefit from the operation rests on the possibility of removing the *whole* of the disease, it would clearly be a wanton barbarity to attempt excision, except when the cervix within reach is alone affected (Lisfranc; Duparcque). The limits within which an operation can be safely attempted, are marked by

[1] Dublin Hospital Reports, vol. v. p. 456.

[2] Diseases of Women, p. 187.

[3] Cyclop. of Pract. Med. vol. iv. p. 397.

[4] The following are the rules laid down by M. Duparcque, "Sur la necessité, la contre-indication, ou l'inutilité de l'amputation du col de l'uterus."

1. Amputation of the neck of the uterus is inadmissible in cases of simple congestion, where the ulceration is not profound; at least we are not to have recourse to it until the ordinary remedies have all been tried without success.

2. It ought to be rejected or delayed, when the disease, whatever it may be, appears stationary, or when there is hope of preventing its ulterior development by other means.

3. It is quite inadmissible when we have reason to think the disease not confined to the neck of the uterus, when the cervix is beyond the reach of the necessary instruments, or if other organs are similarly affected.

4. We must also consider carefully any circumstances which would afford proof of a hereditary predisposition, as, in such a case, a return of the disease will be almost inevitable.

5. Perhaps, also, it might be necessary to defer the operation until age has destroyed such hereditary, organic, or vital predisposition, which may render a relapse equally certain if the operation be undertaken previously. Traité des Alterations, &c. p. 541.

In the opinion of M. Pauly, the editor of Lisfranc's work, "of all surgical operations, the excision of the neck of the womb has hitherto been one of the most murderous." ("*Une des plus meurtrieres.*")—Lisfranc, Mal. de l'Uterus, p. 428.

the insertion of the vagina into the superior part of the cervix uteri (Lisfranc).

2. Again, it would be useless and injurious, if the surrounding parts (lymphatic glands and cellular membrane) are affected, inasmuch as the fatal progress of the disease would rather be accelerated (Blundell). The uterus, therefore, should be perfectly movable. It has been stated, however, that if the enlargement of the lymphatic glands depends upon irritation merely, and not upon deposition, that it will subside after the operation, and need be no obstacle to our undertaking it (Lisfranc).

3. Congestion of the body of the uterus is contended for by some as an objection to the operation; M. Lisfranc remarks, in answer, that if not excessive, it need not deter us, since, to a certain extent, it exists in all cases, and subsides spontaneously after the operation.

4. Congestion of the ovaries is not regarded as an obstacle by the daring operator of La Pitiê: he argues that as Baron Larrey used the cautery with impunity under such circumstances, no harm will result from excision.

5. Circumstances which would forbid the performance of any of the great surgical operations, equally forbid this: such, for instance, as any affection of the thoracic or abdominal viscera.

6. The development of the "cancerous cachexia" already noticed, and the consequent breaking up of the constitution, as indications of an advanced stage of local disease, will, of course, prohibit the operation.

If we now enquire in what diseases, in accordance with the foregoing observations, the expectation of benefit from this operation may be reasonably entertained, we shall find our range very limited. 1. If we could obtain a case of cancer in which the deposition should be strictly limited to the cervix, without contamination of the neighbouring tissues or deterioration of the general health, but which, nevertheless, presented symptoms justifying our interference, we might be warranted in the attempt. But how exceedingly rare is such a combination, and yet I cannot think the operation justifiable in any other case of cancer uteri than the one just described.

2. It might be worth trying in corroding ulcer of the uterus; here we have no surrounding deposition, there is no evidence to show that malignant ulceration would commence in the portion of the uterus remaining after the operation, if the whole of the diseased part were removed, and we see the cases before ulceration has extended beyond the cervix, and before the health is undermined.

If there be any case calling for this operation, I think this is one, but even here, so terrible are the consequences, it is only the recollection of the inevitable death of the patient which could arm the operator with sufficient courage.

Method of operating. The operation may be performed without depressing the uterus, or that organ may be drawn towards the

vulva. The former is said to be the better plan when the uterus is the seat of fungus or soft cancer; and, for these cases, Dupuytren[1] invented a species of spoon with a cutting edge ("*cuiller tranchante*"), and also an instrument consisting of a circle of steel with a sharp inner edge, with a perpendicular handle. The neck is introduced into the circle, and excised by a rotatory motion.

Osiander used curved scissors. MM. Hatin and Colomba,[2] have each invented instruments, by which the neck of the uterus can be seized and excised.

Dr. Canella[3] has contrived an instrument, consisting of a cylindrical speculum, containing a second cylinder, having at its upper border a transverse blade. This being capable of being opened and shut at will, scoops out the cervix when the inner cylinder is made to rotate. The cervix is fixed by the hook forceps during the operation.

"To avoid laceration from the hooks, M. Guillon has proposed an instrument, which, after being introduced into the uterus, would be so expanded as to preclude the possibility of its slipping out, and afford a secure hold for drawing the whole organ downward. But the objections to this instrument are—1. The difficulty of introducing it. 2. The difficulty of opening it, when introduced. 3. The inevitable bruises and lacerations which it would inflict."[4]

M. Lisfranc draws down the uterus by the forceps of Museux (which are accurately applied by the aid of a bivalve speculum) until the cervix passes through the os externum. The operator then ascertains the line where the vagina is inserted into the cervix, as being the limit of the operation, and then taking a blunt pointed bistoury and placing it at the posterior part of the cervix, and at the proper height, he removes as completely as possible, (from below, upwards) all the diseased portion. The patient is placed as for the operation of lithotomy, and it requires great care to avoid wounding the vulva. If the vaginal orifice be too narrow to permit the passage of the cervix uteri, M. Lisfranc advises the incision of the anterior border of the perineum.[5] He adds, that the operation is by no means a painful one, the chief distress arising from dragging down the womb.

An ingenious instrument has lately been proposed by Dr. Aronsohn, of Strasburgh,[6] by which the uterus can be seized, and its cervix excised without drawing it down to the vulva.

It is difficult to estimate properly these various methods: probably

[1] Duparcque, Traité des Alterations, &c. p. 445.

[2] Boivin and Dugès, Diseases of the Uterus, p. 245. Lisfranc, Mal. de l'Uterus, p. 407, 408.

[3] Cenni sull Estirpazione della bocca del collo dell' utero. Milano, 1821. See also M. Avenel's "Memoire" on the treatment of cancerous affections of the cervix uteri. Revue Med. tom. 3, p. 6.

[4] Boivin and Dugès, Diseases of the Uterus, p. 245.

[5] Mal. de l'Uterus, p. 409, et seq.

[6] Zeitschrift fur die Gesammte Medicin, vol. i. p. 436.

the one practised by M. Lisfranc is the easiest, and as far as the operation only is concerned, the safest; but if the cervix uteri be degenerated into a soft mass, it will be impossible to fix the forceps so as to depress the uterus, and a plan like that proposed by Dupuytren must be adopted, if we venture on the operation.

There is one disadvantage attendant upon all *complicated* instruments, viz. that their action is fixed according to their construction, and cannot be varied according to the circumstances of the case, consequently, the remains of the disease are almost sure to be left behind; for this reason, the best instruments that can be used, and all that are necessary for this operation are, the blunt pointed bistoury and the forceps of Museux, which resembles the ordinary dressing forceps, except that each blade terminates in two strong sharp hooks, curved inwards, so as to interlace with their opposites. A second pair will generally be necessary to secure a firm hold of the parts.

Besides the dangers of the operation itself, and these are not trifling even in experienced hands, there are others, the consequences of the operation, but developed subsequently.

1. The patient may die of hemorrhage soon after the operation.

2. Even though there be little loss during the operation, secondary hemorrhage may occur with fatal effects, though it is not frequent after the lapse of 48 hours (Pauly[1]).

3. Inflammation of the womb may take place and prove fatal by disorganisation or by spreading to the peritoneum (Lisfranc). This is especially the case when the vagina is wounded posteriorly (Pauly).

4. If any portion of the morbid structure be left behind, ulceration may commence in it and prove fatal, or the surface of the wound may ulcerate instead of healing (Duparcque;[2] Lisfranc).

The hemorrhage must be met by the application of cold to the vulva, the introduction of a plug, or the employment of the actual cautery, and any inflammatory symptoms by fomentations, antiphlogistics, and calomel with opium. Should the surface of the wound throw out granulations too freely, they may be repressed by touching them with caustic ("*proto-nitrate acide de mercure*"—Lisfranc).

II. *Extirpation of the entire uterus.* This very formidable operation has been repeatedly performed both upon the displaced uterus and upon the uterus "in situ."

The *inverted* uterus has been removed by Gooch, Granville, Rousset, Faivre,[3] Chevalier,[4] Hunter (of Dumbarton),[5] Johnson,[6] Newnham,[7] Windsor, Joseph Clarke, &c.

[1] Lisfranc, Mal. de l'Uterus, p. 424.
[2] Traité des Alterations, &c. p. 397.
[3] Journal de Med. August, 1786.
[4] See Merriman's Synopsis of Difficult Parturition.
[5] Duncan's Annals of Med. vol. iv. p. 366. (1800.)
[6] Dublin Hospital Reports, vol. iii. p. 479.
[7] Essay on Inversion of the Uterus.

Similar cases are recorded by M. Tarral.[1]

In one instance, the inverted uterus was removed by a midwife (Bernhard), in others, it has been torn away (Figuet; Siebold).

There are cases on record where the issue was less fortunate.

A case in which Deleurye operated, proved fatal after a few days; a similar result followed an operation of the same kind by Baudelocque, Desault, and Buet of Vienna.[2] Two fatal cases are quoted by Boivin and Dugès,[3] in which the inverted uterus was mistaken for polypus; one at Lyons under the care of Dr. Key, and the other in Paris.

In cases of *prolapse*, the uterus has been successfully removed with the ligature by Recamier, Marjolin, Delpech. A similar case, by Ruysch, proved fatal. Langenbeck succeeded with the bistoury. Prof. Wrisberg relates a case of its removal by a midwife, with a knife.

When the uterus is "in situ," the operation is, of course, much more dangerous. "Palletta was one of the first, if not the first, who performed this operation, without being aware that he had extirpated more than the cervix uteri. Since that time it has been performed, with a perfect understanding of the case, once by Sauter, twice by Siebold, once by Holscher, four times by Blundell, once by Barnes, once by Lizars, three times by Recamier, thrice also by Langenbeck, once by M. Dubled, once by M. Delpech. Of all the nineteen patients, sixteen died in consequence of the operation, one as late as the fourteenth day (Langenbeck), another on the fourth (Barnes), most of them on the following, or third at the latest, some in a few hours, or even a few moments after the operation."[4]

Dr. Blundell[5] has performed it four times: one case recovered; three died shortly after the operation. He remarks,[6] "If cancer of the lip may be removed with success, I should be inclined to hope that the same success might extend extirpation of the malignant scirrhus of the uterus."

Velpeau[7] says, that the operation has been performed 21 times in 20 years, and, of all these, not one has been permanently cured.

This operation has been proposed as affording a chance of recovery to persons labouring under cancer or malignant ulceration of the uterus, and also to avoid certain consequences (ulceration and gangrene), which sometimes follow prolapse or inversion of this organ).

a. As to the circumstances which permit or forbid the attempt at extirpation of the uterus "*in situ*," on account of organic disease,

[1] Journal Hebdom. de Med. vol. v. 1829.

[2] Saltzburg Med. Chir. Zeitung, 1813, b. 3. s. 188.

[3] See Tarral's Memoire in Jour. hebdom. de Med. 1829, and Sauter's Memoir in the Melanges de Chirurg. Etrangere.

[4] Boivin and Dugès, Diseases of the uterus, p. 248.

[5] Diseases of Women, p. 180.

[6] Diseases of Women, p. 162.

[7] Med. Operatoire.

they are nearly the same as were mentioned when treating of excision of the neck.

1. The disease must be strictly confined to the uterus, not having infected any neighbouring parts the uterus must be free and movable, and the more recent the ulceration, the better.

2. The glands of the pelvis, the ovaries, the bladder, and rectum, must be free from disease.

3. There must be a total freedom from organic disease of other parts.

4. The patient's health should be such as would warrant a grave surgical operation, and, therefore, it must be undertaken before the setting in of the cancerous hectic.

b. When the uterus is displaced, it is desirable that the pelvic viscera should be healthy, that there should be no adhesions, and that the health should be good.

But as the operation is so much less serious, our hesitation on account of the condition of the patient would be less.

Method of operating. This will somewhat depend upon the situation of the uterus. If *prolapsed or inverted*, it may be removed by a stroke of the scalpel, by ligature, or by the two combined. If in its *natural situation*, careful excision is the only means.

1. If the knife alone be employed in the removal, we should be prepared, in case of hemorrhage, to apply the actual cautery. Care must be taken to remove the intestines from the "sac" formed by the depression of the uterus; and, if possible (in cases of prolapse), the peritoneum should be dissected off. In cases of inversion, this is impossible, and patients have recovered without such care.

This is undoubtedly the quickest mode of removal, but it may be questioned if it be the most prudent.

2. The *ligature* may be single or double, i. e. it may either simply surround the pedicle of the tumour, or a double one passing through the centre, may divide the mass into two portions, each having its own ligature (Recamier). Either may easily be applied, and should be tightened every day, until the tumour fall off, if the patient will bear it; if not, every second or third day.

It generally causes a good deal of pain, and a dose of opium will be necessary at bed-time.[1]

Care must be taken that no intestines be included in the "cul de sac" of the inverted vagina.

The length of time which may elapse before the separation of the uterus, varies from three weeks to two months.

From the supposed safety of the ligature, it has been preferred by the majority of practitioners; and, as we have already seen, it has been repeatedly successful.

As, however, some unpleasant symptoms arise during the separation of the uterus, when left to the efforts of nature, from irritation and inflammation caused by the fetid discharges and the presence

[1] See Mr. Newnham's Essay on Inversion.

of a semi-putrid mass, it has been proposed by some writers (Windsor; Recamier; Duparcque, &c.) to amputate the uterus below the ligature, a short time after it has been applied, by a stroke of the scalpel.

If any hemorrhage occur, it can be commanded by tightening the ligature, or by the application of the actual cautery.

It appears to me that this is a far better plan than the use of the knife or ligature separately: it combines the advantages of both, and avoids the inconveniences to which each is liable.

Removal of the uterus when not displaced. Recamier[1] and Dupuytren advise that the uterus should be drawn down to the vulva, in order to facilitate the operation; but M. Gendrin[2] opposes this, and recommends instead that the uterus should be pushed up, "in order to separate the neck of the uterus from the portion of the vagina reflected upon it, and also from the uterine arteries" (Duparcque). The next step, according to Recamier and Roux, is to separate the bladder from the uterus, but Dr. Blundell commences posteriorly. M. Gendrin commences laterally, in order to reach and tie the lateral ligaments as quickly as possible.

Langenbeck endeavours to dissect off the peritoneum without wounding it.

The uterus being separated at one part, may either be turned forward (Sauter; Roux;[3] and Recamier[4]), or backward (Blun-

[1] Recherches sur la traitement du Cancer, tom. 1.

"M. Recamier begins by bringing the uterus down as low as possible, as for excision of the uterus: he then divides the vagina all round the cervix, detaches with the fingers the bladder, which is united to it in part, divides the peritoneum, reverts forward the fundus of the uterus by a transverse wound purposely made, divides the upper thirds of the broad ligaments, encloses in a ligature, applied with a bent needle, the inferior third, together with its vessels, and then concludes by dividing beyond the ligature and behind the elevated portion of the vagina, the last attachments of the uterus." Boivin and Dugès, Diseases of the Uterus, p. 252.

[2] Journal gen. de Med. Oct. 1829.

[3] Melanges de Chir. Etrang. 1824, Geneva.

[4] The following is the account given of M. Recamier's case in the Archives gen. de Med. vol. xxi. p. 79. The state of the uterus before the operation was as follows: "The posterior lip of the os uteri was destroyed; the anterior protruding more than half an inch, was rough "bosselée," and ulcerated internally. The os uteri was wide, and the finger penetrated into the cavity with the greatest facility, owing to the softening of the walls, which were thickened by the development of fungous growths and encephaloid tumours. The posterior walls of the vagina were ulcerated to the extent of an inch. The rectum was healthy, free from adhesions, as was the bladder also. The abdomen was soft, not tender, the pulse quick, and the tongue clean." The operation having been determined upon, "the patient was placed upon the table as for the operation of lithotomy, the projecting part of the cervix uteri was seized by two pair of Museux's forceps, and gentle traction made in order to depress the uterus as much as possible. This part of the operation was the most painful. After examining the rectum, M. Recamier proceeded to the excision of the vagina, which he performed with a bistoury "*en rondache*" at the point where the vaginal

dell[1]), to complete the separation, or it may remain in its natural situation until completely isolated, and then be drawn straight down (Gendrin). It will be necessary to apply a ligature to the ligament on each side in order to prevent hemorrhage.

mucous membrane is reflected upon the cervix. The finger was introduced into the incision, in order to separate the uterus from the bladder, which was done to the extent of two inches. The peritoneum was next cut across, and then the ligaments of the uterus, by means of a blunt-pointed bistoury. So far the patient did not lose an ounce of blood, and complained very little. The broad ligaments were secured by ligatures applied after their division. This accomplished, the body of the uterus was drawn forward and downwards, the forceps disengaged, and the operator divided the posterior wall of the vagina, as well as any fold of peritoneum which connected the uterus to the surrounding parts, and the removal of the uterus was completed." The operation was successful, and I myself saw this patient in the Hotel Dieu after the parts were healed.

[1] Dr. Blundell thus describes his mode of operating:—"I commenced by passing the index and second fingers of the left hand to the line of union between the indurated and healthy portions of the vagina, and then by taking the stem knife (the description of which is here omitted) in my right hand, I could at pleasure lay the flat of the blade upon the point of these fingers, and urge the point of the instrument a little beyond the tip. The apex of the fore-finger being in this manner converted into a cutting point, by little and little I gradually worked my way through the back of the vagina towards the front of the rectum, so as to enter the recto-vaginal portion of the peritoneal cavity, frequently withdrawing the stem scalpel so as to place the point within the tip of the finger; and then making an examination with great nicety, to ascertain whether the vagina was completely perforated.

"A small opening having been formed in this manner, at the back part of the vagina, through this opening the first joint of the fore-finger was passed, so as to enlarge it a little by dilatation and slight laceration. This done, I proceeded to make an incision transversely, that is, from hip to hip; for this purpose, carrying the finger with its cutting edge from the opening in the vagina already made, to the root of the broad ligament on the left side, so as to make one large aperture. I then took a second stem scalpel, having the incisory edge on the opposite side of the blade, and laying this instrument on the fore-finger as before, in such a manner, however, that the cutting edge lay forth on the other side of the finger, I carried the finger, thus armed, from the middle of the vagina, where the former incision commenced, to the root of the broad ligament on the right side, so that the diseased and healthy portions of the vagina behind, became completely detached from each other. The back of the vagina, then, having been divided in this manner, I urged the whole of the left hand into the vaginal cavity, afterwards passing the first and second fingers through the transverse opening along the back of the uterus, this viscus lying, as usual, near the brim of the pelvis with its mouth backward, its fundus forward a little elevated just above the symphysis pubis.

"This manœuvre premised, taking a blunt hook, mounted on a stem eleven inches long, I passed it into the abdominal cavity through the transverse opening, and, with little pain to the patient, pushed it into the back of the womb near the fundus, and then drawing the womb downwards, and backwards towards the point of the os coccygis as I carried the fingers upwards and forwards, I succeeded ultimately in placing the tips over the fundus in the manner of a blunt hook; after which, by a movement of retroversion, the womb was very speedily brought downwards and backwards into the palm of the left hand, then lodging in the vagina, where at this part

A surgeon of the name of Gutberlat proposed, in 1814, to cut down upon the uterus through the linea alba, and extract it; and the operation has been performed in one case by Langenback, in 1825, and in another by Delpech. The results were not such as to invite a repetition of the operation. Both patients died very shortly afterwards.[1]

Dr. Blundell speaks rather more favourably than might have been expected of such an operation; he says,[2] "Might not the womb be taken out above the symphysis pubis, or through the outlet of the pelvis? If above the symphysis pubis, might not the head of the vagina be tied up, and might not the ligature be conveyed by needle into the vagina, so as to hang out at the pudenda? All the parts about the cancerous womb, and the vagina, among the rest, are in such a diseased state, that I expect little from this operation, unless early performed; and then, perhaps, Osiander's operation of paring away the diseased surface of the ulcer, might be preferable; but really the effects of these malignant ulcerations are so deplorable, that I think the propriety of extirpating the womb in these cases, ought certainly not to be lost sight of."

M. Dubled has proposed to remove the uterus without injuring the peritoneum; this operation was contemplated by Sauter, and performed by Langenbeck on a case of prolapsus uteri; it is nearly the same, as the method of excision proposed by M. Bellini. It consists in drawing down the uterus, separating the vagina at its insertion, and then carefully dissecting out the uterus, applying ligatures round the broad ligaments, and dividing them close to the uterus.

The dangers attendant upon the removal of so important an organ as the uterus, whether displaced or "*in situ*," cannot be *lightly* estimated.

1. The first danger is from the shock given to the constitution, which may even prove fatal. Dr. Blundell thinks that this is felt the most, when the supports of the uterus in the pelvis are divided, and when the mass is extracted from the pelvis. This shock is very slight when the uterus is displaced.

of the operation the diseased mass might be seen distinctly enough, lying just within the genital fissure. The process of removal being brought to this point, the diseased structure remained in connection with the sides of the pelvis by means of the fallopian tubes and broad ligaments, and with the bladder by means of the peritoneum, the front of the vagina and the interposed cellular web, parts which were easily divided, so as to liberate the mass to be removed.

"The broad ligaments were cut through, close upon the sides of the uterus; and in dividing the vagina, great care was taken to keep clear of the neck of the bladder and the ureters."

Four or five ounces of blood only were lost, and ligatures were unnecessary. The patient suffered very little distress, and recovered easily. The account was published five months after the operation, at which time the patient was doing well. (Lancet, Aug. 9, 1828.)

[1] Boivin and Dugès, p. 248.

[2] Diseases of Women, p. 177.

2. Dangerous or fatal hemorrhage may occur after the extirpation of the uterus "in situ;" when the uterus is displaced, this danger may be avoided by the use of the ligature or the actual cautery.

3. The parts within the pelvis, or the peritoneum, may be attacked by inflammation, compromising the life of the patient. To this each kind of operation is obnoxious.

4. If the opening at the upper part of the vagina be considerable, the intestines may protrude. This would be remedied by a small sponge tent.

I have thus endeavoured to describe these two grave operations, *excision* and *extirpation* of the uterus. I have enumerated those who have attempted the operation as far as I could ascertain their names, and have pointed out the circumstances which have been considered as justifying the attempt, with the different methods adopted for the attainment of their object. If I have merely echoed the opinions of others, it is, I honestly confess, because I have had myself no experience on the subject.

After a careful examination of the results of the operation, when the uterus is "in situ," it is really difficult to find adequate reasons in its favour, except the repugnance, which every one must feel, to give up entirely the hope of affording relief from the most agonising sufferings to which the female sex is exposed.[1]

Our conclusions will be different as regards the removal of a displaced uterus. The operation is far less fomidable, is attended with less shock to the constitution, and has been performed repeatedly with the most perfect success. There can be no objections against undertaking it, under favourable circumstances, and when the case may require it.

CHAPTER XX.

DISPLACEMENTS.—I. ANTEVERSION OF THE UTERUS.

It may be thought somewhat out of place to treat of some of these displacements here, as they are so intimately connected with pregnancy and parturition; but, as they do occur independently, it appeared to me preferable to travel out of the way in order to complete the subject, rather than give a partial view or omit it altogether.

[1] "It is evident that the extirpation of the uterus is one of the gravest and most painful operations in surgery, since it is the most fatal. It ought not to be undertaken except with great prudence, nor unless it is probable that the disease is perfectly movable. The signs of this limitation of the disease to the uterus and of its mobility, are to be acquired by the use of every mode of examining the uterus, but, unfortunately, these means are not always trustworthy. Very able men (MM. Sauter and Roux) have overlooked the extension of the disease to the ovaries and fallopian tubes, which are often attacked when the body of the womb is affected. We must conclude, that in many cases, it will be wiser to abstain from the operation."—*Gendrin.*

It is proposed to describe four kinds of displacement, viz. Anteversion, Retroversion, Prolapse, and Inversion, of the womb.

We shall first speak of *anteversion* of the uterus, or that displacement where the uterus occupies a transverse position in the pelvis, the fundus being towards the symphysis pubis.

This accident is extremely rare;[1] it can only occur whilst the uterus is about the natural size, and in the cavity of the pelvis. There are other circumstances also which preserve the female from this displacement, and which will strike us at once, if we recall the relative position of the uterus in the pelvic cavity.

Situated near the level of the upper outlet, it rests anteriorly upon the bladder, and posteriorly is in contact with the rectum. Now the oblique position of the pelvis, when joined to the spinal column, would naturally favour the occurrence of anteversion, were it not that the presence of the bladder, so often distended, offers an obstacle to its descent anteriorly. So long as the bladder contains much urine, this accident may be considered as impossible.

When it does take place, the fundus uteri is directed anteriorly to the inner surface of the symphysis pubis, pressing upon the neck of the bladder; whilst the cervix presses the rectum posteriorly, the uterus thus lying transversely across the pelvis, instead of being nearly perpendicular.

Causes. For the production of anteversion, it is necessary that the fundus uteri should be rendered somewhat heavier than usual, compared with the inferior portion of the organ, or else that a decided tilting forward should be occasioned by a force external to the uterus.[2]

If the bladder be empty, and a sudden expulsive force exerted at the same time, the uterus may be tilted over anteriorly, especially if the ligaments have been relaxed by previous pregnancies.

In accordance, with this explanation, we shall find that it has occurred in the first two or three months of pregnancy (Baudelocque), but not after the uterus has increased much in size (Nauche).

In some cases, it has been discovered that the first displacing power resulted from an accumulation of fæces in the rectum, which pressed forward the fundus uteri.

In others that an attack of chronic metritis had rendered the womb top heavy (Dugès), or that the same effect was produced by a fibrous tumour (Nauche). A blow, a fall, a shaking in an uneasy

[1] "Of this accident I have never seen an instance during gestation, and from the nature of the case, it must be very rare; but I have met with it from enlargement of the fundus uteri in the unimpregnated state. The symptoms are, weight in the lower part of the abdomen, a desire to make water, but difficulty in doing so, the existence of a tumour near the pubis, the direction of the os uteri to the sacrum, and some impediment to the passage of the fæces, with bearing down pains."—Burns's Midwifery, p. 260.

[2] See Nauche, Mal. prop. aux Femmes, vol. i. p. 102.

carriage, obstinate diarrhœa, have all been enumerated as exciting causes (Nauche).

Symptoms. These are not very marked,[1] except such as depend upon the mechanical disarrangement of parts.

If great pressure be made upon the neck of the bladder or upon the urethra, retention of urine may result, but this is rare. The patient complains of some difficulty in passing urine, as well as in going to stool, but assistance is seldom required on this account (Capuron[2]).

Constipation is sometimes occasioned by the pressure upon the rectum.

The patient feels a great and unusual weight in the pelvis, with a pain in the hypogastrium and at the perineum (Dugès); and a sense of dragging from the loins (Nauche); all of which are greatly increased by standing or walking.

Leucorrhœa sometimes occurs, and occasionally there is some irregularity in the menstrual evacuation (Nauche).

If an *internal* examination be made, the pelvis will be found blocked up by a tolerably dense body—the uterus: the fundus will be found anteriorly, and the cervix posteriorly.

If a sound be introduced into the blader, it will impinge upon the displaced fundus, and this has given rise to a suspicion of stone in the bladder (Levret). There is, however, no sound resulting from the contact, nor is the touch like that of stone.

If the displacement be not remedied, the anterior wall of the uterus generally becomes the seat of engorgement and inflammation (Nauche[3]).

There is a slighter degree of displacement in the same direction, which takes place sometimes in the later months of pregnancy, and is called *anteflexion* or *anterior obliquity*.[4] It occurs in first pregnancies, from the natural obliquity of the uterus, and also after many childbearings, from the relaxation of the abdominal parietes allowing the uterus to fall forward.

The os uteri is situated near the promontory of the sacrum, and is sometimes difficult to find. This has led to the supposition of certain cases being examples of imperforate uterus.

The symptoms, in some respects, resemble those already described (Nauche), but in themselves they are of little consequence; our main attention will be directed to the effect of this displacement in retarding labour, by "forcing down a segment of the os uteri between itself and the ossa pubis; this portion of the uterus usually

[1] Nauche says, women may labour under it for years without suspecting its existence. Mal. prop. aux Femmes, vol. i. p. 100.

[2] Mal. des Femmes, p. 293.

[3] Mal. prop. aux Femmes, vol. i. p. 101.

[4] "This is not a very unusual occurrence in women with wide pelves, and it always occasions a slow labour, especially if it be a first child." Merriman's Synopsis of Difficult Parturition, p. 65.

becomes tumefied and indisposed to dilate; and the action of the uterus grows irregular, spasmodic, and more acutely painful."[1]

Diagnosis. 1. Levret confessed that the only case of anteversion he met with, he mistook for a stone in the bladder, and the mistake was corrected only by a *post mortem* examination, the woman having died after the operation for stone (Capuron[2]). The introduction of a sound into the bladder, conjoined with a careful *vaginal* examination, ought to guard against this error.

2. From *retroversion*, it will be distinguished by the greater bulk anteriorly, and by the cervix uteri posteriorly.

3. From *pelvic tumours*, by its sensibility, by the os uteri posteriorly, and by the history of the case.

4. From an *ovarian tumour*, by its sensibility, its history, and by the presence of the os uteri.

Treatment. Many of the slighter cases rectify themselves, aided, on the one hand, by the filling of the bladder, and on the other, by the efforts to empty the rectum.

When caused by chronic metritis, the appropriate antiphlogistic treatment, by relieving the disease, will allow the uterus to resume its natural situation (Dugès).

If we are obliged to interfere manually, the reposition seldom offers very serious difficulties. The cervix should be hooked down with the forefinger of one hand, whilst with the other the fundus uteri is to be gently elevated.

The utmost tenderness must be used, and the patient kept in bed for some days, lying on her back.

Sponging with cold water, "douches," or cold vaginal injections, will aid in restoring the tone of the vagina.

Nauche speaks of using a pessary, "*à bilboquet*," with the upper part hollowed to receive and retain the cervix uteri, but this will very rarely be necessary.

Other inventions are reported, by which the sterility resulting from the disturbed relations of the parts may be prevented.[3]

As to the anterior obliquity occurring at the end of pregnancy, and interfering with parturition, Dr. Merriman observes,[4] "This kind of labour is best relieved by time and patience. It has been thought advantageous for the patient to *take her pains* lying on her back; for, as the belly is very pendulous over the symphisis pubis, this position rather takes off the pressure which the uterus, interposed between the edge of the pubes on one side, and the head of the child on the other, has to suffer, and by which cramps and spasmodic pains are generally produced." This, in many cases, is rather inefficient management, and delivery without further assistance, is at the expense of some hours of suffering to the patient.

[1] Merriman's Synopsis of Difficult Parturition, p. 14.
[2] Mal. des Femmes, p. 292.
[3] Nauche, Mal. prop. aux Femmes, vol. i. p. 104, 105.
[4] Synopsis of Difficult Parturition.

Dr. Hamilton's advice is more in accordance with my own experience, when he remarks[1]:—"The effectual means of giving relief is, during the pain, to press up the band of the uterus which is between the head and the pubes. When that is effected, the band next the sacrum is to be pressed upon, and whenever it yields, the difficulty is overcome, the infant rapidly advancing."

CHAPTER XXI.

RETROVERSION OF THE UTERUS.

When treating of anteversion in the last chapter, it was seen that the uterus was situated in the middle of the pelvis, resting anteriorly upon the bladder, and by it upheld against the obliquity resulting from the junction of the pelvis and spine. It can easily be understood that if the perpendicularity of the uterus be destroyed either by an alteration in the relative situation of the pelvis, or by the extraordinary distension of the bladder, and if, at the same time, the bulk and weight of the fundus uteri, compared with that of the cervix, be increased, a very slight forcing downward will tilt over the fundus, and, if the pelvis be of the full size, the fundus will be depressed below the promontory of the sacrum.

This displacement is called *retroversion* of the uterus, and is exactly the opposite of anteversion.

It would appear that the ancients were not ignorant of its occurrence,[2] though their views were very indefinite, but their successors lost sight of it altogether until the labours of William Hunter[3]

[1] Practical Observations, part i. p. 232.

[2] Dict. des Sciences Med. vol. xxiii. p. 273. art. Hysteroptose.

[3] Gooch's Lectures on Midwifery, p. 117.

The following is Dr. Gooch's abridgment of the case which first drew Doctor William Hunter's attention to this displacement in the year 1754:—"A poor woman in London, about four months advanced in pregnancy, was suddenly seized with retention of urine. She sent for Mr. Walter Wall, a medical practitioner, who passed the catheter and relieved her; but the impediment continued, and it being again necessary to employ the catheter, Mr. Wall, on this occasion, made an attentive examination, with a view to discover the nature of the obstruction. He passed his finger up the vagina, the course of which instead of being upwards and backwards towards the sacrum, was upwards and forwards against the pubes. He could not feel the cervix uteri, but he discovered a tumour at the posterior part of the vagina, which, on the introduction of the finger into the rectum, was found to be between the gut and the vagina. The lower portion of this tumour being projected towards the pubes, the impediment to the evacuation of the bladder was supposed to be occasioned by its pressure on the urethra. Mr. Wall finding the case of his patient corresponded with the description of retroversion of the uterus as given by M. Gregoire, endeavoured to replace the uterus, but without success. He then sent for Dr. William Hunter, who, upon examination, found the relative state of the parts to be that which has been just described. On raising the tumour, the urine dribbled away: Dr. Hunter endeavoured to restore the uterus to its natural situation, but failed;

(1754), in this country; Desgranges (1715), and Gregorie (1746), in France, and of Richter in Germany, threw a new and more accurate light upon this, to them obscure, accident.

In this displacement, the cervix will impinge upon the urethra somewhere about its junction with the bladder, the posterior lip of the os uteri will become inferior, and the uterus will occupy the pelvis horizontally in its antero-posterior diameter.

The position of the vagina is peculiar; the posterior wall is depressed in consequence of the fundus falling between it and the rectum, whilst the projection of the cervix carries forward the anterior wall; its direction, therefore, instead of being from before, backwards, towards the sacrum, is really upwards and forwards to the symphysis pubis (Capuron).

The disease is not very frequent; it most generally happens to females who are a short time pregnant, though I have known it to occur to those who were not so.

The period of pregnancy, during which alone it can occur, is whilst the uterus is within the cavity of the pelvis, or before the 18th week (Jourdan; Capuron).

The amount of backward depression may vary a little; but, to constitute retroversion, the fundus must be below the promontory of the sacrum.

It may occur either suddenly or gradually, according to the character of the exciting cause.

Causes.—Jourdan considers a large pelvis, and the too great prominence of the sacral promontory, as predisposing causes, and he also remarks that thin women are more liable to it than fat ones.

Prolapse of the posterior wall of the vagina may affect the perpendicularity of the uterus.

Amongst the more direct causes, are those which render the fundus uteri disproportionately heavy, and consequently the balance of the uterus easily disturbed; such, for instance, as early pregnancy, moles (Blundell), or a tumour, whether pediculated or not (Desault). I have known retroversion to happen the first day of a menstrual period, when the weight of the uterus was increased by the afflux of blood.

M. Pearson and Dr. Blundell met with cases of retroversion caused by scirrhus.[1]

there was an obstinate constipation, and in a few days the patient died. On examination after death, the bladder was found distended, the cervix uteri was turned upwards and forwards against the symphysis pubis, and the fundus had fallen downwards and backwards into the hollow of the sacrum; where it was so impacted as to be with difficulty dislodged." (Gooch's Lectures, edited by Mr. Skinner, p. 117.

The case is related by Dr. Hunter himself in an appendix to a similar case of Mr. Lynn's, in the 4th volume of the Medical Observations and Enquiries, pp. 338 and 400.

[1] Pearson on Cancer, p. 113. Blundell, Diseases of Women, p. 18.

Callisen and Blundell mention cases where this accident followed delivery, but such must be exceedingly rare (Jourdan).

The important consequences resulting from effects of a distended bladder have already been mentioned; in the majority of cases, it will be found that the urine has been retained for many hours (Capuron).

Dr. Blundell[1] says that an enlarged ovary may act in the same manner, and I have seen similar effects produced by a large tumour in the upper part of the pelvis.

When any one or two of these conditions co-exist, it then only requires some force pressing the contents of the pelvis downwards suddenly, to complete the retroversion, and this is generally afforded by violent efforts at lifting weights, vomiting or evacuating fæces (Capuron). A fall or a blow may also give rise to it (Dugès[2]).

If the uterus be once partially retroverted, the symptoms (bearing down, &c.), which result, will speedily complete the displacement.

Symptoms.[3]—The most distressing symptom, that which first attracts the patient's attention particularly, and the one on account of which we are consulted, is a partial or complete retention of urine.[4] It is important to remark, that an examination, *per vagi-*

[1] Diseases of Women, p. 6.

"A lady, labouring under ovarian dropsy, was recommended to take a ride in an open carriage every day, for the improvement of her health, taking the air as much as might be without occasioning much fatigue. In one of these excursions, the vehicle chanced to be turned over, and she was thrown out with violence, her abdomen striking, with great force, against a stone that was lying by the road side. On her return home, a very copious secretion from the kidneys ensued, with great abdominal pain, when, in the course of a few days, she recovered, and found herself entirely liberated from the dropsy. Some time afterwards, she entered into the married state, and died with an irreducible retroversion of the uterus, about the fourth month. Inspection was made, when it appeared, clearly, that in consequence of the fall, there had been a rupture of the ovarian cyst, and a flow of water into the peritoneal sac, whence it was absorbed and effused by the kidneys, the remains of the cyst falling on the uterus, and carrying it down below the promontory of the sacrum, which becoming retroverted, was fixed by inflammatory adhesion in the retroverted position. While this unhappy lady remained unmarried, she felt but little inconvenience; but marrying, and the enlargement of the uterus taking place, the womb, in consequence of adhesion, not admitting of replacement, a fatal pressure of the contiguous parts ensued." Blundell on Diseases of Women, p. 6.

[2] Nouv. Dict. de Med. et de Chir. pratique, art. Retroversion.

[3] Nauche says that retroversion may happen without giving rise to any symptoms: but that such cases must be very rare, a consideration of the mechanical disturbance alone will convince us. Mal. prop. aux Femmes, vol. i. p. 106.

Capuron observes, that as some time elapses before the accumulation of urine becomes distressing, the symptoms during that period, will be much slighter than subsequently. (Mal. des Femmes, p. 285.)

[4] "I wish it to be understood, however, and very important it is that this should be known, that, in the retroversion of pregnancy, you have not always, nor I think generally, these *complete retentions* of urine; for, often where the uterus is retroverted, the retention is partial." "Day after day

nam, should never be omitted in a case of dysuria occurring in early pregnancy.

If the retention have continued for some time, the distended bladder may be felt rising above the brim of the pelvis.

The pressure of the fundus uteri upon the rectum, more or less, completely arrests the passage of the fæces through that intestine, and we find either constipation or a difficulty in going to stool (Dugès; Capuron).

Dr. Hunter observes that all the cases he had seen "happened about the third month, sooner or later, and they all brought on a difficulty, and gradually a suppression, first of urine, and then of stools likewise."

"When such suppressions once begin, they aggravate the evil, not merely by causing pain, but by occasioning a load of accumulated urine and fæces in the abdomen above the uterus, which presses it still lower in the cavity of the pelvis; at the same time that the distension of the bladder in this state draws up that part of the vagina and cervix uteri, with which it is connected, so as to throw the fundus uteri still more directly downward."[1] In Dr. Marcet's[2] case, constipation and vomiting were prominent symptoms.

The patient complains of a weight and fulness in the pelvis, a dragging from the loins, and a constant effort at forcing down, resembling labour pains, and exciting fears of abortion (Capuron).

This distressing state cannot continue long, without exciting severe and formidable constitutional suffering. The patient loses her appetite, complains of violent pain, the pulse becomes very quick, fever sets in, with thirst, loaded tongue, hot skin, restlessness, &c. The action of the intestines is sometimes inverted, and a vomiting of stercoraceous matter takes place.

the fluid is sparingly emitted, but never in such quantity as to empty the bladder completely, till by and by perhaps the secretion begins to steal away involuntarily, or she may have strong efforts to pass the urine even against her will, and with every effort a small gush only may be produced, or there may be a continual dripping, and yet, notwithstanding all this, an accumulation of water may go on very gradually, so that several pints, nay several quarts, may be gradually accumulated. At this time, there may be œdema of the lower limbs, especially if your patient be in a state of gestation; and you, for the case is extremely deceptive, finding that the legs are œdematous, that the abdomen is large, as in the case of ascites, that it is fluctuating with distinctness, and that the patient, instead of having a retention of urine, on the contrary, supposes herself to labour under an incontinence of water, the retention of the secretion may be the last disease which you suspect, and you are inclined to ascribe all the symptoms to ascites, ovarian dropsy, dropsy of the ovum, or other causes. If you err, nothing is done, and the bladder may burst. Even when the bladder is emptied, chronic disease is to be expected, or there may be a fatal inflammation or a miscarriage. In cases of this kind, the urine may continue to accumulate for three or four weeks together." Blundell on Diseases of Women, p. 7.

[1] Med. Observations and Enquiries, vol. iv. p. 406, 407.

[2] Cooper on Hernia, part ii. p. 60.

If the distension of the bladder be not relieved, the walls will give way, and its contents, discharged into the peritoneum, will excite fatal peritonitis.[1]

But, if just so much urine escape as will prevent this frightful termination, the patient's life may be compromised by the fever, or ultimately by inflammation of the uterus and gangrene (Capuron[2]).

"Retroversion of the uterus," says Dr. Gooch,[3] "may terminate fatally by one of three modes; either by irritation, by inflammation, or by sloughing of the bladder."

If an *internal* examination be made, the direction of the vagina will be found to be forwards to the pubes, instead of backwards to the sacrum; the posterior wall is thrown into folds, whilst the anterior is more upon the stretch; behind the posterior wall, between it and the rectum, a large tumour may be felt, continued across the pelvis, and terminating anteriorly against the pubes—this is the uterus. It is rarely possible to pass the finger beyond the lower surface of the uterus (Capuron).

Some difficulty will be found in attempting catheterism; it will be necessary to keep the point of the instrument close to the symphysis pubis, and to be exceedingly gentle in pressing it forwards.

The size of the womb will depend upon its being empty or not, and upon the period of gestation, if impregnated.

A *post mortem* examination reveals the displacement, and in addition, the cause of death, whether that be inflammation of the bladder and uterus, or rupture of either and consequent peritonitis (Capuron[4]).

Diagnosis. The most characteristic symptoms have already been stated to be the sudden and more or less complete retention of uterine, and the constipation (Blundell). These ought always to lead to an examination, and then the mechanical cause, the displacement, will be detected.

1. The abdominal tumour might be mistaken for *ascites*, but a vaginal examination, and the effects of catheterism, will mark the distinction.

[1] Blundell on Diseases of Women, p. 19, *note*.

[2] Mal. des Femmes, p. 286.

[3] Lectures on Midwifery, &c. edited by Mr. Skinner, p. 119.

The Doctor adds, "In the first instance of this kind which I ever saw, death was produced by inflammation. The patient was in the fourth month of pregnancy. She had been suffering from retention both of urine and fæces nine days, and her abdomen was immensely distended. The village apothecary had been giving her nitrous æther as a diuretic. I introduced the catheter, by keeping the point close against the pubes, and drew off several quarts of urine, with which were mixed puriform and bloody streaks. She suffered great pain in the region of the bladder, accompanied with the usual symptoms attendant on inflammation; but in spite of bleeding and purgatives, she died. On examination, the uterus was found to participate in the inflammation in the bladder; it was still retroverted, though labour pains came on, and she miscarried soon after the urine was drawn off."

[4] Mal. des Femmes, p. 286.

2. The pelvic tumour might, perhaps, be confounded with *ovarian enlargement*, but the sudden occurrence of the symptoms, and the peculiar form of the tumour, will generally decide the question.[1]

3. An empty, retroverted uterus may resemble one of the *tumours* which occasionally grow *between the vagina and rectum*, but it is distinguished from them by its shape, and by its prolongation anteriorly into the cervix uteri, and the position of this extremity *within* the vagina.

Treatment. All writers agree in the *first indication*, viz. to restore the uterus to its natural position; this, however, is not easy in most cases, nor is it to be attempted in the first instance; we must previously introduce the catheter, and draw off the water if possible (Blundell). It has been said that in some cases the womb has righted itself after this operation, or, at any rate, after the evacuation of the contents of the uterus (Dugès; Cheston; Hunter[2]); but that such cases must be exceedingly rare, will be plain, if we consider the mechanical impediment to such reposition.

[1] Nauche relates a case which was supposed to be retroversion, and in consultation about which, it was determined, as a last resource, to puncture the uterus, all efforts at reposition having proved unavailing. The patient died, and upon examination it turned to be a case of extra uterine fœtation; the sac containing the fœtus having descended into the pelvis. A fistulous communication had taken place naturally between this tumour and the rectum. In such cases, a correct diagnosis must be very difficult of attainment; happily they are very rare.

See Nauche, Mal. prop. aux Femmes, vol. i. p. 108.

[2] "After the case was suspected from the suppression of urine, and then certainly known by the examination with the finger, both in the *vagina* and the *rectum*, the urine was first completely drawn off by the catheter, then a sufficiently stimulating clyster was thrown up; and after the bowels were well emptied, it was always found easy to replace the *uterus*. In one instance, the *uterus* of itself recovered its natural situation, immediately after the above-mentioned evacuations had taken place. In another case, there were several relapses before the uterus grew so large that it could no longer fall back." Dr. Hunter's remarks on Mr. Wall's case, in Med. Obs. and Enq. vol. iv. p. 408.

"Should you fail in this attempt, under gentle efforts, I should then recommend to you an excellent practice, advised by Denman. This consists in keeping the bladder thoroughly emptied, letting the patient drink but little, causing her to perspire as much as may be, and introducing the catheter some two or three times a day;—the bladder being kept empty, the woman is placed with the pelvis inverted, for which purpose she ought to take her position on the knees and elbows. The longer time she passes in this posture the better; it may be necessary to use it for hours together. She is not to give way merely on account of the fatigue, but to continue it as long as the replacement may require. Adopting this plan, the bladder being empty, the womb will sometimes return to its natural position, may be immediately, may be in an hour or hours; but I think I may venture to add, that it pretty certainly returns at last. To this mode of treating the disease, I am exceedingly partial, because it requires nothing more than the introduction of the catheter, and the abstraction of the urine; there is no introduction of the hand into the vagina; no entrance of the fingers into the rectum—no force—no contusion—and no lacerations." Blundell on Diseases of Women, p. 11.

If there be evidence of inflammation going on in the uterus or neighbouring parts, as is sometimes the case, it may be well to take away some blood from the arm, and to foment the external parts, or prescribe a hip bath before attempting the reposition of the uterus (Capuron ; Nauche). After this preparation, or without it, if it be unnecessary, one or two fingers of one hand are then to be introduced into the rectum for the purpose of elevating the fundus, and of the other, into the vagina, for the purpose of depressing the cervix.[1]

When one finger in the rectum is insufficient, it has been proposed to pass in the whole hand ; but it may be questioned whether mischief rather than good would not result from so violent a proceeding.

The uterus must be pressed forward, and then upward, in order to clear the promontory of the sacrum.[2]

Others conceive that the fingers, introduced into the vagina and directed towards the sacrum, would be able, in some cases, to elevate the fundus (Melitsch ; Meckel ; Lohmeyer).

It is very difficult to pass the finger beyond the cervix uteri, in the vagina, so as to hook it down, and it appears to me that we should be fully justified in using a pair of hooked forceps. I am not aware that this plan has been tried, but it seems to meet one very desirable object, viz. the being able to depress the cervix prior to the elevation of the fundus : if this could be done there would be little difficulty in the remainder of the operation.

Dugès[3] recommends the introduction of a sound into the bladder, as an assistance in depressing the cervix.

When once the fundus uteri has passed the promontory of the sacrum, the uterus is felt to assume its proper position freely.

" When the reduction of the uterus has been effected, you should direct your patient to continue in bed for two or three weeks. If there be any disposition to a return of the retroversion, you should advise her to place herself upon the knees and elbows, once or twice in the day, for an hour or more at a time ; and you may direct her also to empty the bladder repeatedly in the course of the twenty-four hours, never suffering any large accumulation of urine to take place."[4]

If she be pregnant, all danger of a relapse will be over when the

[1] See Lyne's case in Med. Obs. and Enq. vol. iv. p. 388. Becher in Starke's Archiv. für die Geburtshülfe, p. 136. Kratzenstein's inaugural thesis, published at Copenhagen, 1782. Vermandois, Journal de Med. vol. 85. Mursinna, Abhandlung von den Krankheiten der Schwangern und Gebarenden, vol. i. p. 58. Haselberg, Untersuchungen und Bemerkungen ueber einige gegenstande der pratischen Geburtshülfe, p. 109.

[2] " As the principal obstacle (says Jourdan) arises from the promontory of the sacrum, we must endeavour to remove the uterus as far as possible from this point, and direct the pressure we exercise upon the uterus, so as to avoid it." Dict. des Sciences Med. vol. xxiii. p. 277.

[3] Nouv. Dict. de Med. et de Chir. prat. art. Retroversion.

[4] Blundell, Diseases of Women, p. 14.

uterus rises above the brim of the pelvis, and she may then resume her usual occupation; but, if she be not pregnant, a longer rest will be necessary.

In the case we have just described, the means are supposed to have succeeded, though with difficulty, but there are other cases where the obstacles appear insuperable.

1. It has been found impossible to pass the catheter; and in such a case it has been proposed to puncture the bladder, and evacuate the water, to avoid the fatal consequences of rupture. Cheston succeeded once in this way (Jourdan; Blundell[1]). Pressing the uterus backwards will occasionally liberate the urethra, and allow the catheter to pass (Naegelè).

2. Notwithstanding the evacuation of the bladder, all our efforts to replace the uterus in its natural position are sometimes unavailing, because of the bulk it has attained. This only happens with pregnant women, and especially with those in whom the retroversion continues for some time before relief is sought. In such cases we are advised to pass a sound through the os uteri, if possible, in order to induce abortion,[2] and so diminish the size of the uterus by evacuating its contents. Or, if this be impossible, we are advised to puncture the uterus, by means of a trocar, either from the vagina or from the rectum (Hunter;[3] Capuron;[4] Nauche; Blundell[5]). This operation has been performed twice with success.

[1] Blundell, Diseases of Women, p. 11.

[2] "In retroversion of the uterus, requiring special treatment, it would not, perhaps, be impossible to introduce some small, yet strong instrument, into the cavity of the uterus, along the mouth and neck, so as to break up the structure of the ovum, and in that way to give rise to its expulsion. It is very easy to conceive that if the os uteri could be felt, and if an instrument could be carried into it, with which the ovum could be broken in pieces, an expulsion of the ovum might ensue." Blundell on Diseases of Women, p. 16.

[3] "The following question arises from the nature and unhappy event of this case (the one under Mr. Wall's care, quoted before). Whether it would not be advisable, in such a case, to perforate the uterus with a small trocar, or any other proper instrument, in order to discharge the liquor amnii, and thereby to render the uterus so small and lax, as to admit of a reduction? If other methods should fail, I think such an operation should be tried." Med. Obs. and Enquiries, vol iv. p. 406.

[4] Mal des Femmes, p. 288.

[5] "In a case of retroversion of the uterus, where the catheter could not be introduced, nor the rectum emptied, I should feel myself inclined to consider the propriety of tapping the uterus, which might perhaps be found, on the whole, to be as desirable an operation as tapping of the bladder, or the dividing of the symphisis pubis. I should not like a great trocar and canula, as if I were going to tap in a case of ascites, wounding a great many vessels, and perhaps occasioning death; but I should prefer an instrument of a very small size, by which I could perform a sort of acupuncturation. Perhaps an instrument on the principle suggested, might be introduced into the uterus without much danger; and then, if a contrivance were fixed upon the other end of it, so as to bring away the fluid by a sort of suction, it may be that a good deal of the liquor amnii might be drawn off. If the uterus was thus evacuated of the liquor amnii, there

3. In these impracticable cases, Callisen suggested the operation of gastrotomy, for the purpose of directly seizing and replacing the uterus. He, Purcell, Gardien, and Cruikshank, also advise division of the symphisis pubis, as affording more room for the reposition of the displaced viscus (Blundell).

CHAPTER XXII.

PROLAPSUS UTERI.

Various are the terms which have been used to designate this displacement. Prolapsus, Procidentia, or Descensus Uteri, are the most common among the learned, and "falling down of the womb," "bearing down," among the common people.

It consists simply in a depression of the uterus below its natural level in the pelvis. It is therefore of great importance that we should ascertain and be familiar with the natural situation of the womb.

Astruc's description is pretty accurate; he says,[1] "The uterus is placed in the middle of the pelvis, in the hypogastrium, with the bottom a little below the level of the bones of the ilion, and the neck at the height of the os pubis, or a little lower."

"In the healthy unimpregnated state of these parts," says Sir C. M. Clarke,[2] "the uterus is situated nearly in the centre of the cavity of the pelvis, the distance of the os uteri from the os externum being about four inches. The os uteri is not a continuation of the same line with the vagina, but it terminates in the vagina by projecting into it, the outer surface of this projection being covered by a portion of the inner membrane of the vagina slightly spread over it."

The body of the uterus is apparently supported by the lateral ligaments, whilst the cervix rests upon the vagina, and, as is evident, cannot descend except by pushing the vagina before it, or passing itself into the canal of the vagina.

The ancients doubted the possibility of the occurrence of prolapse, on account of what they deemed the strong support afforded

would immediately be a considerable reduction of its bulk, and, perhaps, at length an expulsion of the ovum. The womb might be tapped either from the vagina or the rectum; but vaginal tapping would, I conceive, be preferable."—Blundell on Diseases of Women, p. 15.

In adition, the reader may consult Hamilton's Midwifery, p. 155; Edinburgh Practice of Midwifery, p. 99; London Practice of Midwifery, p. 117; Ryan's Midwifery, p. 447; Conquest's Midwifery, p. 47; Ramsbotham's Obs. in Midwifery, part 2. p. 429; Astrubali Trattato generale di ostetricia, vol. i. p. 238; Siebold's Journal of Midwifery, &c. vol. iv. p. 277; vol. vii. p. 199, 238, 589, 685, 744; vol. viii. p. 554; vol. ix. p. 751; vol. x. p. 357, 372; vol. xi. p. 174; vol. xii. p. 182.

[1] Diseases of Women, vol. ii. p. 201.

[2] Diseases of Females, vol. i. p. 66.

by the ligaments (Manning). We not only know that the disease is one of frequent occurrence, but it is even doubted whether the aforesaid ligaments contribute in any degree to prevent the displacement (Hamilton).

It occurs in all ranks, and most frequently in females beyond the middle age, who have borne children (Capuron). The more numerous the children, the more are the passages in a condition favourable to the displacement of the pelvic contents.

It is often a consequence of laceration of the perineum (Clarke).

It has been met with in women who have not borne children, and even in maids (Manriceau; Saviard; Boivin and Dugès; Capuron;[1] Kendrick[2]).

Dr. Alex. Monro has related a case occurring in a child of three years of age.[3]

It happens frequently to women after their first confinement, and disappears after the second altogether, owing to the greater or less care bestowed upon their convalescence after parturition.

"Of all the chronic diseases arising from a local cause, to which women in civilised society are liable, prolapsus uteri, or displacement of the womb, is perhaps the most frequent."[4]

"Every degree of procidentia uteri may be met with; from that case in which the os uteri descends a little lower than its natural situation, to that in which the os uteri projects through the external parts, dragging with it the vagina, and forming a large tumour between the thighs of the woman, equal in size to a large melon. This will cause an alteration in the relative situation of the parts within the pelvis, and of the abdominal viscera, both regarding each other, and also the containing parts, as the parietes of the abdomen and the bones of the pelvis. The bladder, instead of being contained in the pelvis, falls down into the external tumour, dragging with it the meatus urinarius; so that in order to introduce a catheter into the bladder, the point of the instrument must be turned towards the knees of the woman; for, being placed in the usual manner in which that instrument is introduced, it will enter the passage, but it cannot be made to pass into the bladder in that direction. The rectum, instead of taking the sweep of the sacrum, first dips down into the posterior part of the tumour, and afterwards ascends into the pelvis. The fallopian tubes and ovaria will, of course, be dragged down with the uterus, and the centre of the tumour will be filled up by the small intestines which hang down into it (the meseatary being stretched); whilst the omentum will occupy any vacant space which may be left."[5]

Some authors have adopted the division made by Astruc[6] into

[1] Mal. des Femmes, p. 301.
[2] Medical Gazette, August 13, 1836, p. 774.
[3] Edinburgh Medical Essays, vol. iii. p. 282.
[4] Hamilton, Practical Observations, part i. p. 1.
[5] Clarke on Diseases of Females, vol. i. p. 67, 68
[6] Diseases of Females, vol. ii. p. 202.

three degrees. 1. Depression of the uterus, or incipient procidentia,—where the os uteri is felt to be lower than usual in the pelvis. 2. Procidentia,—when the os uteri rests upon the perineum, and the body of the uterus occupies the cavity of the pelvis. This is the most frequent, as it may be years before it protrudes through the os externum. 3. Prolapsus,—when the uterus is completely protruded through the external orifice of the vagina, everting the bladder and vagina.[1] (Nauche; Capuron; Blundell; Boivin and Dugès.)

The distinction proposed by Manning is, however, sufficient; and it is not always easy to distinguish between the depression and procidentia. "The disease has been commonly distinguished into the *perfect* and *imperfect prolapsus*. It goes by the former of these names, as long as the uterus, though advanced considerably downwards, continues to remain within the cavity of the vagina; and by the latter, when it has descended below (through) the orifice of that canal, so as to appear entirely without the pudenda."[2]

We shall therefore consider *imperfect prolapse*, or *procidentia*, and *perfect prolapse*, and we shall find that the symptoms of each differ little, except in intensity.

Either degree of depression may occur under the following circumstances:—

1. The uterus being of natural size, and having never been impregnated. (De Graaf; Manriceau; Saviard.)

2. The uterus being unimpregnated, but labouring under certain diseases which augment its volume and weight, such as fibrous or polypous tumours, moles, hydatids, scirrhus, &c. &c. (Nauche; Capuron; Blundell; Boivin and Dugès; Burns.)

3. In early pregnancy, from the additional weight of the uterus. (Saviard; Portal; Nauche;[3] Capuron; Blundell.)

4. During labour, if the pelvis be very wide, and the labour

[1] Denman, Burns, and F. H. Ramsbotham, call the second degree of displacement prolapsus; and the third procidentia. Denman's Midwifery, p. 64. Burns' Midwifery, p. 127. Ramsbotham's Lectures, in the Medical Gazette.

Davis designates the first degree, Delapsion; the second, Prolapsion; and the third, Procidentia of the uterus. Obstetric Medicine, vol. i. p. 526.

[2] On Female Diseases, p. 277. Nauche and other French writers treat only of two degrees, "*relachement*" and "*descente*."

[3] "I was called in consultation," says M. Nauche, "by M. Evêque, Feb. 24, 1809, about a lady, who, having been long troubled with a "*relachement*" of the uterus, suffered violent pains in the lower belly, resembling those which occur in abortion, when she was about four months pregnant. On making a vaginal examination, we found the cervix uteri swollen, immovable, and slightly dilated."

"The pains, which had lasted many hours, ceased as soon as the patient was placed on her back, with the pelvis higher than the head, and the uterus pushed upwards through the upper outlet into the abdomen. The usual course of gestation was not subsequently disturbed."

pains violent. (Ducreux;[1] Leake;[2] Nauche;[3] Sabatier; Capuron;[4] Portal.)

5. After delivery. Complete prolapse is much more frequent at this time than any other.

6. It has been occasioned by disease of adjacent parts; by ascites (Heming); diseased ovary (Boivin and Dugès); tumour near the pudendum (Wagner[5]).

Causes.—There has been a difference of opinion as to the proximate or pathological cause of this displacement. Sir C. M. Clarke observes:—"The immediate causes of this disease are—

"1. Relaxation of the broad and round ligaments above.

"2. A want of due tone in the vagina below.

"By the first the uterus is permitted to fall, and by the second the uterus is allowed to be received into the cavity."[6]

Astruc, Manning, Leake, Gardien, &c., are silent upon the first of these causes, and very recently, Dr. Hamilton, of Edinburgh, has denied its existence.[7] Nevertheless, it would appear that these ligaments cannot be totally omitted in our consideration of uterine depressions, (although perhaps too much stress may have been laid upon them,) as it is certain that, but for their restoration, complete prolapse could not take place. (Jourdan; Nauche; Capuron; Sabatier; Lisfranc; Burns; Boivin and Dugès;[8] Davis.)

[1] Mem de l'Acad. de Chir. de Paris, vol. viii. p. 393.

[2] Diseases of Women, p. 129.

[3] Nauche, Mal. prop. aux Femmes, vol. i. p. 86.

[4] Mal. des Femmes, p. 299.

[5] Biblioth. Med. vol. xiii. p. 114.

[6] Diseases of Females, vol. i. p. 72.

See also Die ursachen und hülfsanzeigen der unregelmässigen und schweren Geburten, von Dr. J. Osiander, Tubingen, 1833, vol. iii. s. 130.

[7] After objecting to the influence attributed by many writers to the expansion of the peritoneum, he continues:—"It is evident that the bladder, the vagina, the rectum, and more especially the muscles lining the pelvis, and those connecting the lower part of the trunk and the inferior extremities, mainly contribute to hold the uterus in its natural position."

"It will be found that, in every case of prolapsus uteri, the vagina, or bladder, or rectum, or muscles lining the pelvis or filling up its outlet, are debilitated or lacerated, and therefore the relaxation of the peritoneum and its productions (the ligaments of the uterus) is the effect of prolapsus, and not its cause.

"Cases of prolapsus in virgins, it may be alleged, furnish an objection to this reasoning." "Such cases may be easily explained. The accident in those cases is the effect of a sudden exertion in moving the body, at a time when the usual supports of the uterus are relaxed, viz. during menstruation. While that process goes on, every part connected with the uterus feels flabby and open to the woman herself, and any violent action of the locomotive muscles, as in leaping or dancing or running, must occasion displacement of the uterus, in the same way that it would force out a portion of the intestine, if the abdominal muscles were weakened at their ring."—*Pract. Observ.* pp. 11, 12.

[8] Speaking of incipient prolapse, Boivin and Dugès remark:—This condition is undoubtedly the result of considerable extension of the superior ligaments and the vagina; but it is wrong to refer this effect exclusively to the

The state of the vagina is probably the chief cause. After many childbearings, both the canal and its orifice remain much dilated, and the walls are less resisting than before (Capuron[1]). Similar

latter organ. Those who have considered it merely as a weakness of the vagina, ought to have been undeceived by the numerous cases in which the lax and extensible condition of this canal does not lead to prolapsus; and by those in which the upper part of the vagina, without being dilated, is propelled through the lower. The broad ligaments, almost entirely membranous, are of little influence in supporting the uterus, as is proved by the facility with which they are extended during pregnancy. The round ligaments, on the contrary, clearly resist any considerable descent, and especially the inclination backward, inevitable in semi-prolapsus. These are necessarily lengthened by morbid relaxation, especially in complete prolapsus; but in incipient prolapsus, they are not stretched further than their length and bend permit. The only plausible explanation, then, of incipient prolapsus, is, the relaxation of the utero-sacral ligaments, which is of course much greater still in the two other degrees, since the uterus moves forwards as well as downwards. These ligaments then entirely disappear, their muscular fibres shrivel, and the peritoneal fold, which covers them, is unfolded in order to stretch over the adjoining parts."—Diseases of the Uterus, p. 43.

Dr. Davis's opinion is equally opposed to the views propounded by Dr. Hamilton; for he says, when speaking of the causes of descent of the womb: "The proximate cause, as it appears to the author, can scarcely be other than a reduced power, by whatever previous cause produced, of the suspensory ligaments of the uterus, not necessarily accompanied by a state of relaxation of the vaginal parietes. In the opinion of some writers, the latter circumstance should be deemed of itself a sufficient proximate cause of prolapsion of the uterus. But is such a doctrine entitled to the praise even of versimilitude? An organ susceptible of development to an almost indefinite extent, as the vagina is, can scarcely have been intended to maintain a degree of contractedness sufficient to enable it to sustain the uterus in any given position. Add to this consideration the fact, that the vagina is actually most ample where the hypothesis now questioned requires it should be most contracted: and there is yet another important circumstance to be taken into the account, viz. that the vaginal passage, in more than one class of adult subjects, is never devoid of an amplitude which, in the author's opinion, must render it totally incompetent to sustain the office allotted to it by this very unsatisfactory hypothesis." "Prolapsion of the uterus is, therefore, much more probably and frequently the effect of relaxation, or of rupture, or of diminished power under some form or other, of its proper suspensory ligaments, than of any supposed state of relaxation of the vagina." Obstetric Medicine, vol. i. pp. 524, 525.

[1] Mal. des Femmes, p. 298.

"When the vagina is closed in the natural degree, there is little risk of these accidents; but if there be much vaginal relaxation, whether this arises from mucous discharges, or from floodings, or from frequent childbirth, or from other causes, this dilatation contributes greatly to the descent of the viscera; for the smallness of the vagina is a principal security against these troublesome displacements.

"Another cause is an elongation of the broad ligaments, which may become stretched so far as to allow of a more extensive movement of the womb, which they ought to retain in connection with the sides of the pelvis."

"Therefore, among the more immediate causes of these descents of the pelvic viscera, you may enumerate the following as of principal and proximate operation: the conformability of the parts, derived from a frequent

effects are said to result from repeated uterine hemorrhage (Clarke); menorrhagia (Jourdan); leucorrhœa (Leake, Capuron, &c.); and from a general weakness of the system.

Such being the state of the parts, it is clear that very slight downward forcing will depress the womb, and ultimately exclude it from the vaginal orifice.

This force will be supplied by the increased weight of the uterus, if the patient sit up or walk soon after delivery or abortion (Clarke; Capuron); and this is a very frequent occasion of prolapse, especially among the lower orders; by violent vomiting, coughing, and sneezing; by great stranguary or forcing; or by the endeavour to lift heavy weights (Capuron). Dr. Heming mentions having seen prolapsus caused by ascites.[1] M. Lisfranc conceives that congestion of the uterus is almost always the cause of depression of the uterus.[2] Women with large-sized pelves are more liable to this displacement (Blundell), or with congenital shortness of the vagina (Boivin and Dugès).

Jourdan remarks that it is more frequent in thin than in fat women (Capuron).

Symptoms.—These are principally *mechanical*, arising from the pressure of the prolapsed uterus upon other organs; from their being involved in the displacement, or from the *sympathies* of other organs with the uterus. It is very remarkable how little prolapse interferes with the uterine functions. Menstruation, though sometimes disturbed, is perfectly regular in the majority of cases, and rarely mixed with hemorrhage; and not only is there no impediment to impregnation so long as the uterus is retained or can be returned into the vagina (Nauche), but there is more than one case on record, where impregnation was effected, although the prolapse was irreducible (Burns;[3] Chopart;[4] Capuron[5]).

descent; the elongation of the broad ligaments; and the relaxation of the vagina, more especially when they are acting in co-operation with an unusually large pelvis." Blundell on Diseases of Women, p. 26.

[1] Boivin and Dugès, Diseases of the Uterus, p. 44 (*note*).

[2] Mal. de l'Uterus, p. 526.

[3] Midwifery, p. 134.

[4] "Chopart (Traité des Maladies de la Vessie, vol. ii. p. 73,) fait mention d'une fille atteinte, depuis l'age de quàtorze ans, d'une chute incomplète de l'uterus, qui augmenta insensiblement. Cette jeune personne fut mariée à l'age de vingt deux ans. Son mari pendant vingt ans fit des tentatives inutiles pour la rendre mère. Il parvint enfin à dilater, avec le membre viril, l'orifice de l'uterus, et consomma l'acte de la generation; la grossesse s'ensuivit, et parcourut son cours ordinaire, sans occasionner beaucoup d'incommodités. Au moment de l'accouchement, une très-grande portion de l'uterus se montra hors du vagin, sous la forme et la volume d'un melon. Ce viscere etait dur, renitent et tellement serré par l'orifice du vagin, qu'il semblait avoir contracté des adherences avec lui. L'orifice de l'uterus ne se dilatant pas, on fut obligé de faire sur son col deux incisions opposées, afin d'opérer une dilatation suffisante pour extraire l'enfant, qui etait mort."—Nauche, Mal. propres aux Femmes, vol. i. p. 87.

The patient recovered, but the prolapse continued.

[5] A similar case is related by Capuron, as occurring in a female, who,

The degree of inconvenience caused will generally bear some relation to the amount of the displacement, although even a slight degree of descent will sometimes be marked by considerable suffering,[1] dependent, probably, upon the idiosyncrasy of the patient. She complains of a sensation of fulness in the pelvis, of weight and bearing down, and dragging from the loins and umbilicus (Capuron). There is more or less pain in the back, extending round to the groins; this, with the dragging sensation has been attributed to the stretching of the uterine ligaments (Clarke).

The patient suffers great distress from attempting to stand or

from the age of 14, had been subject to prolapsus uteri. She was married at the age of 22, but at the age of 43 was childless; at that age, however, "un jour son mari dilata l'orifice uterin, y introduisit le gland, et determina la conception. A l'epoque de l'accouchement qui eut lieu à terme, la matrice avoit la forme d'un ellipisoide, et la grosseur d'un melon; le col en etait dur et calleux; l'orifice ne presentoit qu'un pouce de dilatation. Marrigues fut obligé d'y pratiquen une double incision pour l'aggrandir. Le travail se termina par l'expulsion d'un enfant mort, mais bien constitué. La femme recouvra la santé, et reprit ses travaux accoutumès." Mal. des Femmes, p. 300 and 302.

[1] "In procidentia (complete prolapse) of the womb, it is remarkable that the health of the patient often suffers very little; indeed, it has been observed with truth, that the general health is often much worse in those cases in which there is a mere relaxation, than in those cases of procidentia in which the vagina and uterus lie forth under view."—Blundell on Diseases of Females, p. 34.

Dr. Hamilton has some very valuable observations on this point; he remarks, "In robust women of the lower ranks, little inconvenience is experienced till the uterus be actually protruded through the external parts; and even, under such circumstances, if they manage by any mechanical contrivance to prevent the actual protrusion, they can make all the ordinary exertions required by their mode of life, such as carrying milk or vegetables or fish through a large city."

"Thus it consists with the author's knowledge, that a woman with a protrusion, which in size equalled a great bottle, and in whom both the protruded parts and the internal surface of the thighs were extensively ulcerated, maintained, for four years, an epileptic husband and four children by the laborious occupation (now exploded in this city) of a water carrier. This woman's general health was unimpaired, and she asserted that her appetite was good, and that she had no morbid affection whatever of the stomach and bowels."

"The author has seen three other cases where the size of the protruded parts was enormous, and two of the individuals were gaining their livelihood as laundresses, and the third as a milk-woman, walking through this city at least two hours twice a day."

"Far different is the progress of the disease in delicate individuals in the higher ranks. The uneasy feeling on standing or walking, lead them to avoid all exertions which are productive of such sufferings. Their general health soon declines from want of air and exercise, and the increasing descent of the uterus produces an unusual discharge from the mucous glands of the vagina. This aggravates the general weakness, as well as the sense of weariness in the back; a broken constitution is the natural consequence."—Pract. Observ. pp. 3, 4, 5.

walk, and is much worse in the evening than in the morning (Blundell).

If the womb descend to the external orifice, and more especially if it protrude, there is a degree of difficulty in voiding urine and fæces; indeed, in some cases, the former can only be accomplished by lying down and returning the uterus to its natural situation.

Strangury is occasionally present, in consequence of the irritation extending itself from the womb to the bladder (Clarke).

All the mechanical symptoms are aggravated by the patient remaining in the upright position; but if the womb have not completely prolapsed, she will obtain immediate and complete relief by lying down. If the descent be complete, the dependent uterus will give to the patient a peculiar straggling walk. Lying down in such a case affords relief from the distressing sensations, but not from the prolapse.

It is seldom that the patient is free from leucorrhœa, though the quantity secreted will vary (Clarke); occasionally it is very profuse, manifestly diminishing the strength of the constitution.

Attacks of menorrhagia occasionally occur (Clarke), but it is very rare, indeed, that there is any hemorrhage (Jourdan).

From its intimate connection with the womb, the stomach soon shows signs of derangement. "The appetite becomes irregular, or is totally lost; the stomach and bowels lose their tone, and there is great distension in the belly, arising from air, which may be heard when moving from one part to another; the spirits flag; every employment becomes irksome, and life itself is considered as scarcely desirable: there are, however, a variety of shades in the degree of this sympathy. The diaphragm is sometimes affected by spasm, and hiccough is produced."[1]

The information obtained by a vaginal examination will vary according to the degree of displacement. If there be only *procidentia*,[2] the womb will be felt on passing the finger through the vaginal orifice; the os uteri will be discovered at the bottom of the tumour which fills the pelvis more or less; and the vagina will be found loose, relaxed, dilated, or thrown into folds.

If the womb have *prolapsed*, it will be discovered on separating the thighs and turning aside the labia. It is generally of a conical

[1] Clarke on Diseases of Females, vol. i. p. 81.

"These cases (see page 285, note), suggests a doubt in respect to the cause of the dyspeptic complaints which attend even slight degrees of prolapsus in the better ranks. Such complaints have been supposed, by the latest authors, to be the effect of sympathy between the stomach and uterus, or of displacement of the abdominal viscera. Ought not the above facts suggest to an unprejudiced mind, the idea that the treatment pursued in the better ranks has a very considerable influence in occasioning the secondary symptoms?"—Hamilton's Practical Observations, p. 6.

But did the doctor never see these secondary symptoms among the lower orders, who resisted the confining effects of the disease as long as possible?

[2] For the purpose of making this examination, the patient should be kept in an erect posture.

form, or pear-shaped, but whether the upper or lower part be the wider, depends entirely upon the time which has elapsed since the first occurrence of the displacement. If recent, the apex of the cone will be downwards, but in almost all old cases, the apex will be found at the mouth of the vagina. Occasionally, the organ is more cylindrical, and is not unlike the male organ of generation. (Jourdan; Clarke, &c.) Saviard relates such a case, which obtained for the patient the character of being hermaphrodite. "Dr. Duval was grossly deceived (in the case of Marie Lemarcis) by a resemblance between the cervix uteri and male glands."[1]

The size of the tumour varies very much; it is seldom very large in those cases where the patient is in the habit of returning it into the pelvis on lying down; but when this is neglected, or rendered impossible by inflammation or sudden swelling, it sometimes attains a very great size, and is quite irreducible (Astruc).

In all cases of prolapse, the os uteri will be found at the lower part of the tumour; and as a cleft resembling it often exists in polypous tumours, it will be right to make sure of its being the mouth of the womb, by the careful introduction of a bougie, should there be any doubt.

The protruded womb has lying on its anterior wall the bladder, the whole being covered by the everted vagina, the mucous membrane of which will be tense or thrown into rugæ, according to the size of the tumour and the distension of the bladder by urine.[2]

Generally, the tumour has a firm, elastic feel, and, anteriorly, some fluctuation may generally be detected. The colour depends upon the exposure; when frequently returned into the pelvis, it preserves its delicate pale pink hue, but when allowed to remain long exposed to the external air, its colour deepens, and it becomes dark red or brown.

A further effect is produced by exposure; the mucous membrane of the vagina, covering the prolapsed organ, becomes converted into a kind of epithelium, with a cessation of the mucous secretion (Boivin and Dugès).

From the situation of the prolapsed viscus, it is peculiarly exposed to irritation and pressure, giving rise to circumscribed patches of inflammation, which are very liable to run on into ulceration, more frequently superficial than profound, forming a distressing

[1] Boivin and Dugès, Diseases of the Uterus, p. 47.

[2] "When the tumour is external, it presents a nearly equal surface; as the uterus descends, the rugæ of the vagina are obliterated, except where the upper part of the tumour is joined to the body, and even here they are lost when the bladder contains much urine; but in proportion as it empties itself, the rugæ begin to form again. When the tumour becomes very large, the skin of the labia is drawn down, so that these parts are no longer distinct projections, but the tumour begins close to the inner part of the thighs, being there covered by the cuticle of the labia; the greater part of the tumour, however, is covered by the membrane which, under natural circumstances, lines the vagina."—Clarke on Diseases of Females, vol. i. p. 70.

addition to the sufferings of the patient.[1] I had, some time ago, a patient under my care, with an enormous irreducible prolapse, which was pierced nearly through by five or six ulcerations. Such ulcerations have been known to assume a gangrenous appearance (Nauche[2]), and to put the patient's life in jeopardy. Dr. Elmer[3] relates one case, and Rousset[4] three, in which the uterus, being attacked with gangrene, separated completely and came away, yet the patients recovered.

The "cul de sac" formed behind the prolapsed uterus and vagina, very often contains fluid, and occasionally a considerable portion of intestine[5] (Capuron).

If the abdomen be very carefully manipulated, it is said that it will be found flatter and more empty than ordinary (Clarke).

Diagnosis. In addition to other distinctive marks of prolapsus uteri, there is one that is perfectly conclusive, and applicable to any degree of the displacement.[6] *I mean the presence of the os uteri at the inferior part of the tumour.* We must, of course, make sure that it is the os uteri, and not a mere fissure: this may easily be done by the introduction of a moderate sized bougie. Another mark, upon which some stress has been laid, is of less value; I allude to the form of the tumour (a cone with the apex down-

[1] "It seldom happens that the vagina remains long exposed to the action of the air, without ulceration taking place upon its surface. This ulceration does not attack the whole of the exposed surface at once: small spots or patches inflame and ulcerate, and these sometimes run into each other, but the whole surface is seldom covered by them. These ulcerations are generally not deep, and they have the appearance of healthy sores, which readily heal upon the replacement of the prolapsed parts. Whenever these ulcerations are met with, the os uteri seldom escapes being attacked by one of them." Clarke on Diseases of Females, vol. i. p. 83.

[2] Nauche relates the following rare case:—"A lady, somewhat advanced in life, who had suffered a long time from procidentia uteri, found the organ completely prolapsed after a shaking drive in a carriage. M. Elmer, having been summoned, found his patient attacked by fever, pain in the stomach, weakness, and great pains in the limbs. The displaced uterus had acquired an enormous size; it was black, exhaled a fetid odour, and had all the appearance of the first stage of gangrene."

"Three days afterwards, the separation of the uterus commenced, and in a few days it came away entirely; the fever and pain ceased, the patient's strength returned, and she recovered her health. (Maladies propres aux Femmes, vol. i. p. 84.)

[3] Annales litt. Med. etrang. vol. vi. p. 676.

[4] Partus cæsareus, p. 337, 353, 354.

[5] "In the case of a poor woman named Watkins, who died in Kensington workhouse, in whom the protruded parts measured more than fifteen inches in circumference and six and a half in length; it was found that they contained, besides the uterus, the urinary bladder, with a portion of the meatus urinarius, part of the rectum, the fallopian tubes, and the small intestines." Hamilton's Pract. Observ. part i. p. 4.

[6] "The mark which always characterises procidentia of the uterus, is the existence of the os uteri at the lower part of the tumour. This being wanting, the disease is proved not to be procidentia uteri." Clarke on Diseases of females, vol. i. p. 84.

wards—Boivin and Dugès), which has already been stated to depend altogether upon the length of time the prolapse has been complete.

Procidentia uteri may be distinguished:—1. *From polypus uteri*,[1] by the presence of the os uteri at the inferior part of the tumour, and by its sensibility:—and *prolapsus uteri*, in addition to these marks, by the eversion of the vagina and by the presence of the bladder on the anterior part of the tumour, covered by the vagina[2] (Blundell).

2. *Procidentia uteri* differs from *partial inversion of the uterus*, in the presence of the os uteri at the lower part of the tumour, in the absence of severe floodings, and in its smooth surface: *prolapse* differs from *complete inversion*, in the presence of the os uteri, in the smooth surface, in having the bladder anteriorly, and in the absence both of the floodings and the extreme constitutional suffering.

3. From *prolapse of the vagina*, in the greater solidity of the tumour, and in the presence of the os uteri inferiorly.

4. From *tumours of the pelvis*, by a vaginal examination, which will show the uterus to be in its natural situation (Davis).

Treatment—"If nothing were done in the way of treatment, for a patient labouring under this disease, she would become much distressed by all the symptoms which have been described: she might die from weakness, induced by the large discharges and the disordered state of the stomach: or she might die from inflammation taking place in the parts contained in the inverted vagina, which are more liable to pressure than when in their usual place, the cavity of the pelvis and abdomen." "Such fatal terminations are uncommon; it much more frequently happens, that the patient drags on an uncomfortable life for a number of years, till she is destroyed by accident or by some other disease."[3]

It is in the treatment of this displacement, that we see the value of a distinct appreciation of the degree of descent. In the milder cases, we can often succeed, by acting medicinally upon the mucous membrane; in the severer ones, we are obliged to have recourse to mechanical support.

We shall therefore consider the management, first, of *procidentia uteri*.[4]

[1] "There are at least three diseases with which prolapsus uteri may be confounded, and from which, of course, it is necessary to distinguish it, viz. chronic enlargement of the uterus, polypus excrescence, and incipent scirrhosity. Nothing but actual examination can enable the practitioner to draw the line of distinction. In this disease the os uteri forms the apex of the protruding part in whatever position the patient may be placed, and no tenderness whatever is experienced from pressing upon the part."—Hamilton's Pract. Observ. p. 6.

[2] Jourdan adds:—By the prolapse being reducible, but not so the polypus. Dict. de Med. vol. xxiii. p. 284.

[3] Clarke on Diseases of Females, vol. i. p. 86.

[4] Lisfranc declares that slighter cases of procidentia, being all caused by

If a patient, who has previously suffered from descent of the womb, require our attention during her confinement, we should be on our guard against permitting her to leave her bed, or even to sit upright in it, before the elasticity of the parts has restored them to their natural state. By great care and a longer confinement than usual, it has been found possible to cure many patients, who, previous to their pregnancy, had suffered from prolapse.

This preventive treatment may be perfectly successful, but it is not often that we have an opportunity of putting it into practice, as the majority of cases present themselves to us at an age beyond that of childbearing.

In ordinary cases, the first and most general remedy to be employed, is rest, for as long as possible, in the horizontal posture.[1] If by this means the relaxation of the vagina and ligaments be not cured, at any rate it will be prevented from increasing (Clarke; Burns; Gardien; Davis;[2] Blundell).

There are two means of restoring the tone of the relaxed vagina, viz:—the application of cold, and the injection of astringents (Clarke). The facts in support of the efficacy of these remedies are numerous and authenticated, but it would occupy too much space to dwell upon them: I shall merely state the best mode of application.

The lower belly, the genitals, and the back, may be sponged with very cold water twice or three times a day, and an injection (a pint) of cold water, may be thrown up the vagina morning and evening (Nauche).

The patient should remain in the recumbent position whilst receiving the injection, which should be gently and slowly administered by means of an appropriate syringe, or an elastic bottle (Clarke; Blundell).

Astringent remedies deserve a full trial, for in many cases they are very beneficial.[3]

Various kinds have been recommended; some object to those of metallic origin, as liable to cause irritation of the mucous mem-

congestion of the uterus, may be cured without any reference to the depression. Even when the prolapse has been complete, he has hitherto avoided using mechanical support:—"En resume," concludes the Professor, "the congestion must first be treated, and if, after that, the displacement of the womb is persistent, the pessary may be employed, if the patient can bear it."—Mal. de l'Uterus, p. 528.

[1] Dr. Hamilton does not attach so much importance to rest in this position; he says, "Although the horizontal posture immediately relieves the uneasy feelings of the patient, the author long ago ascertained that it tends not only to impair the general health, but also to aggravate the disease, by increasing the relaxation of the natural supports of the womb: and daily experience has established the validity of this opinion."—Pract. Observ. page 15.

[2] Obstetric Medicine, vol. i. p. 548.

[3] Blundell on Diseases of Women, p. 41.

brane, and especially recommend vegetable astringents (Clarke). This inconvenience is not, however, of frequent occurrence.

The most useful of either kind are the sulphate of zinc, or copper (℥ss to ℥ii of water); nitrate of silver (from ℈i to ℈ii to ℥iii of water); alum (℥ii to ℥iv); decoction of green tea, of oak bark, of galls, infusion of roses, &c. &c. or we may combine the two kinds.

Dr. Blundell says, "It might be worth consideration, whether powdered astringents might not be of use, if they were introduced with a little care, which might perhaps be done by the patient herself; and I think powdered galls, for example, would furnish a very powerful application. They would have the advantage of lying in the vagina more permanently than a wash, which runs off as soon as it is infused."[1]

From half a pint to a pint of the fluid should be injected *cold*, two or three times a day, the patient lying down for the purpose.[2]

Several objections have been raised against the use of injections, by Doctor Hamilton,[3] chiefly founded upon their improper exhibition, and which will be best obviated by pointing out some circumstances which forbid their employment.

1. Any degree of acute or chronic inflammation of the vagina, will probably be aggravated by astringents.

[1] Blundell on Diseases of Females, p. 41.

[2] "When the parts are replaced, it will sometimes be proper to use local astringent and aromatic applications, in the form of a lotion or fomentation, applied externally, or conducted into the vagina by means of a syringe or sponge."—Denman's Midwifery, p. 66.

Burns decidedly advises the use of astringent injections, whether the pessary be employed or not. Midwifery, p. 130, 131.

"In cases of simple prolapsus, resulting rather from relaxation of the vagina than of the ligaments, it has been found useful to employ astringent injections and fomentations made of the decoction of plants containing tannin (bistorte, provence roses, catechu, kino, &c.); or saline solutions (acetate of lead, sulphate of zinc, alum, sulphate of iron, nitrate of potassa and iron); cold baths and cold applications to the vagina. These remedies should be used somewhat cautiously, as inflammation has sometimes followed; it will be proper to add enemata of the same kind, and tonic frictions about the groins."—Boivin and Dugès, Diseases of the Uterus, p. 52.

[3] To this mode of treatment he offers "the following most serious objections:" *Firstly.* On the supposition that styptic injections were safe, and that they could really restore tone to the vagina, (which the author concedes for sake of argument, for the contrary is his sincere belief), it must be obvious, that if his view of the nature of the disease be correct, no benefit could accrue from the practice. Accordingly, no practitioner trusts to those means, in cases of any considerable degree of prolapsus uteri.

Secondly. It is admitted, that as the irritability of the mucous membrane of the vagina varies in different women, as well as in the same women at different periods of time, the injection of strong astringents may prove injurious. Doubts are therefore entertained of the safety of the practice, even by those who recommend it.

Thirdly. The author's experience has convinced him, that astringent injections into the vagina are apt to injure the uterus, rather than the canal into which they are thrown. He can solemnly aver, that of the numerous

2. Congestion or chronic inflammation of the womb will prohibit them: but in such cases it is probable that relieving the disease may cure the displacement (Lisfranc).

3. The strength of the astringent injection must be well adapted to the irritability of the vagina, and if it be attended with inconvenience, it should be abandoned.

Injections, however, may not be sufficient to relieve even this stage of the disease. "The best mode of treating this disease," says Dr. Blundell, "and the most effectual, is by means of a pessary, and this is a form of it which a well-adjusted pessary will relieve."[1]

The improvement of the general health will often have a remarkable influence upon the procidentia, so that our attention should be carefully addressed to this end. Blue pill, aromatic purgatives, tonics, &c., with good diet, may be useful, and for the inhabitants of cities, a removal into the country (Blundell).

b. Prolapsus Uteri.—When called to a case in which the descent is complete, and the uterus protruded through the external parts, the first duty is to attempt the reduction.[2] This in general is sufficiently easy; the uterus must be gently, yet firmly, pressed upwards by the hand (previously well oiled), and, when within the vagina, one or two fingers should be introduced in order to replace the womb as nearly as possible in its natural situation.[3]

But if the uterus be much swollen, this speedy reduction may be

cases of chronic enlargement of the uterus which have fallen under his notice, by far the greater number had been unequivocally occasioned by the use of styptic injections, per vaginam.

Fourthly. The immediate effect of such injections in cases of prolapsus uteri of any standing, viz: the diminution or suppression of leucorrhœal discharge, has been in many cases followed by distressing headaches, or obstinate inflammation of the eyes, or eruptions on the face."—Pract. Observations, p. 17.

[1] Diseases of Women, p. 39.

[2] "Particular care should be taken to ascertain whether inflammation has at any time attacked the internal parts of the tumour; because, if this should have happened, and if the parts should be connected with each other by coagulating lymph, the force necessary to accomplish the return of the tumour may separate the adhesions, or tear the parts with which they are connected, and the life of the patient may be brought into imminent hazard. Whenever, therefore, acute pain, which has been lasting, has occurred in the tumour, particularly when this has been accompanied by other marks of peritoneal inflammation, such as thirst, white tongue, small quick pulse, tenderness of the abdomen, and vomiting, no attempt should be made to replace the uterus within the body."—Clarke on Diseases of Females, vol. i. page 124.

[3] "The body of the patient should be so placed, that the pelvis may be much higher than the head; this will prevent the weight of the abdominal viscera from interfering with the return of the parts. The patient being now directed not to strain, or in any way to act with her abdominal muscles, the practitioner is to apply his finger and thumb to the lower part of the tumour, where the os uteri is situated, and, by a gentle pressure, this is to be carried up into the centre of the tumour itself. This done, the same pressure is to be continued, and the parts are to be returned into their proper place in the pelvis. A pessary is then to be introduced into the vagina, and the

very difficult, or impossible, and in such a case it may be necessary to take away some blood, give some purgative, place the patient in a hot bath, or apply fomentations to the displaced organ, before we can succeed in replacing it (Blundell).

Should these measures, with absolute rest, in the horizontal position, fail, we are recommended to make one or more incisions into the substance of the womb. Jalouse,[1] and Labatt,[2] have tried this

patient should continue to lie upon an inclined plane, with the hips elevated, for several hours."—Clarke on Diseases of Females, vol. i. p. 126.

It occasionally happens, that if the prolapse be of long standing, and the uterus be much swollen, that its reduction causes more inconveniences than the prolapse. Richter (Bibliothek Chirurg. vol. iii. p. 141), has related such a case. The patient, after the replacement of the womb, felt great uneasiness, sharp pains in the lower belly, and obstinate constipation; and it was found necessary to allow the uterus again to relapse, for the sake of relieving her torture.—Dict. des Sciences Med. art Hysteroptose.

[1] Journal de Med. tom. 43.

[2] Dr. Labatt's case is as follows:—A Mrs. C. F. æt. 27, suffered from prolapsus uteri after her first and second child. The uterus was returned, and retained "in situ" by a pessary, which, however, was shortly afterwards withdrawn, as it occasioned "pain, strong bearing down efforts, constant sickness at stomach, and a troublesome strangury." The uterus, after this, remained prolapsed for several months, and in "March, 1806," says the doctor, "I was requested to see her, when I found her worse in every respect; she was much emaciated, and teased with a cough and copious night sweats. She had no appetite, but constant nausea and vomiting; the uterus protruded out through the os externum to a great extent; it was considerably enlarged, and very sensible to the touch, and seemed evidently in a state of inflammation from friction between the thighs, which appeared excoriated by it. Around the os uteri was observed a superficial ulceration. The base of the tumour (which was *of a conical shape, the os uteri situated at the lower part or apex*), formed by the prolapsed uterus, was surrounded by displaced intestine, and at the anterior part was discovered a swelling, which was found to be the bladder, as, on pressing it, the patient passed water involuntarily. The slightest attempt at reducing the uterus considerably increased the lancinating pains through the pelvis, from which she was never entirely free. With these symptoms she had a constant pain and sense of weight in the lumbar region, increased by an erect posture, a constant and painful desire to pass urine, frequent and profuse uterine hemorrhage, and in the intervals a copious leucorrhœa. The management of her family, in which necessity obliged her to take an active part, tended considerably to aggravate her uterine complaints. Her health became so bad, however, that for some time she was obliged to relinquish every kind of exercise, and remain in a horizontal posture. Under this untoward combination of circumstances, I expressed a wish to consult Doctor Clarke, who suggested scarification of the uterus, as the only remedy left untried, which afforded any probability of relief, at the same time adding, that he recommended it on the authority of a German writer, never having seen it actually put in practice. He considered this patient's situation so desperate, as to justify any rational expedient, however novel. She readily consented to the operation, which Mr. Dease performed, by making ten or twelve bold incisions in the form of radii from the apex of the tumour, as far towards the base as was consistent with the safety of the displaced intestine and bladder. The patient felt little pain during the operation. A discharge of blood—not, however, so copious as might have been expected—continued for several hours, followed by an ichorous discharge, which continued for some weeks. She felt no immediate

plan with success. Care must, of course, be taken to avoid penetrating the peritoneum.

"Dr. Bobe-Moreau thought the pressure produced by a bandage the only means of reducing cases of long standing; and this mode, already proposed by Léveillé,[1] has been successful."[2] Ergot of rye has been given for the purpose of lessening the bulk of the uterus, and with success.[3]

There are very few cases perfectly irreducible, but should any such be attacked by extensive sloughing or gangrene, we may have to decide upon the propriety of removing the organ altogether. (See page 194, et seq.)

The circumscribed ulceration, which I have mentioned as frequently attacking the exposed uterus, will be cured by slightly stimulating and emollient applications.[4] If the uterus be returned and maintained in its proper situation, they disappear without any treatment.

change of any kind, nor any benefit from the scarification; on the contrary, for five or six weeks, she had reason to believe that it increased her distress: after that period, however, she was sensible of an amendment. The size and morbid sensibility of the womb began gradually to diminish, so that in a short time she was able to return it, and wear a pessary with little inconvenience; but, this being too small and falling from the vagina, was discontinued. Being at some distance from home, and anxiously engaged in attending her husband, who was dangerously ill, she allowed the uterus to come down, and remain so until the beginning of April, when she returned to Dublin. I found the womb completely prolapsed, but much diminished in size, and not sore to the touch as formerly; it was returned, and retained in its place by a pessary of a proper size, which she now wears with little pain or inconvenience. The pains in her loins and through the pelvis, are much better, the uterine discharges lessened, her general health improved, and she enjoys a degree of comfort, to which, for many months, she was a total stranger.

"I this day, Aug. 28, 1807, visited my patient, and was much gratified to find her almost free from complaint. She had no distress on making water. The leucorrhœa had ceased, and the catamenia were regular. The uterus has been retained in its natural situation by a globe pessary, which she wears without any inconvenience. Her appetite and general health seem restored, and she is able to take long walks without any increase of her uterine complaints."—Dublin Med. and Phys. Essays, vol. i. p. 235.

[1] Bull. Fac. Med. 1815, No. 4.

[2] Boivin and Dugès, Diseases of the Uterus, p. 51.

[3] In the Medical Gazette for July 26, 1834, a case is related by Mr. Ker, of Manchester, in which he gave four scruples of ergot of rye, with an hour's interval between each, for the purpose of causing uterine contraction, and so reducing the bulk of a prolapsed uterus, which was found irreducible previously. The patient complained of "a great deal of grasping, griping pain" in the uterus, and "on examination," says Mr. K., "we discovered, to our great satisfaction, that a material diminution (in size) had occurred; so much so, that the *rugæ* of the vagina were perfectly manifest; and without any great effort the reduction was effected."

[4] Sir C. M. Clarke recommends the following ointment:—

"Bals. peruvian. ʒ ii
Ung. Cetacei, ℥ i M. ft. Ung."

Dr. Blundell[1] observes, "By the application of some stimulant and astringent remedies, such as are used in cutaneous diseases, perfect cures may, I believe, in general, be easily obtained."

But, supposing the uterus returned into the pelvis, our task is but half fulfilled; we have yet to decide on the best means for keeping it there, and for preventing a repetition of the prolapse.

The ordinary method is by the introduction of a pessary, if the patient be able to bear it. These are of various kinds,[2] either of sponge, cork,[3] boxwood, ivory, or of elastic gum. Those in common use are flat, round, or oval, with edges thicker than the middle

[1] Diseases of Females, vol. i. p. 103.

[2] "The most easily worn pessary, and one perfectly well calculated to meet its intended indication, might be found in a rounded piece of fine sponge of sufficient volume to retain its position within the vagina. The principal objection, to a pessary made of sponge, is its peculiar susceptibility of becoming charged with offensive and irritating impregnations, and the consequent necessity for its being daily withdrawn and replaced. Sponge pessaries should indeed be withdrawn and replaced *at least once every day*. One great advantage attaching to a sponge pessary, is the facility which it affords, for keeping the parietes of the vagina more or less constantly exposed to the action of whatever medicated fluid the practitioner may feel it his duty to recommend to be applied to it; for the sponge pessary may always be worn more or less charged with the fluid furnished for that purpose. The author is in the habit of entrusting that duty to the patient herself, merely giving her general directions to avail herself of a horizontal position, with her knees retracted, and to charge the inferior or more accessible part of the sponge from the mouth of a small cream jug, or the pipe of a toy tea-pot. Practice will enable her in a short time to determine the proper quantity to be used for each charge of the fluid."—Davis, Obstetric Medicine, vol. i. p. 550.

[3] "Cork, although from its lightness, it seems well adapted for the purposes of a pessary, is objectionable from being porous, and liable to imbibe the moisture of the parts: from which circumstance it becomes offensive and irritating.

"Pessaries have been made of cork covered with wax, but they soon lose the wax, which either becomes soft and is rubbed off, or it peels off in flakes.

"Sponge is the worst material which can be employed for pessaries; it is porous, and will very quickly imbibe the moisture of the parts. The piece of sponge must be large, compared with the size of the vagina, or it will be useless; and if it is large, the vagina (the dilated state of which was one of the causes of the disease) will be still further dilated, and although whilst the sponge is worn, the uterus will rest upon it, and the symptoms may be relieved; yet, when it is removed, the disease will return with double violence."—Clarke on Diseases of Females, vol. i. p. 112.

Messrs. Murat and Patissier have given an excellent description of several kinds of pessary, and the dangers arising from their misuse, in the Dict. des Scien. Med. vol. xli. art. Pessaire. "Pessaries may be made of gold, silver, lead, wood, cork, or gum-elastic. Sponge is recommended occasionally, when the membrane of the vagina is swollen, or the canal of the urethra indurated. The more precious metals are, in general, too expensive, and others are liable to be corroded by the discharges. Boxwood is the best species; formerly aromatic woods were employed. Osiander recommended a bag filled with chips of oak bark to be introduced into the vagina. Ivory is sometimes used, but it becomes soft and worn (*Camper*). As to the form, they may either be round, oval, like an hour glass—"*en bondon*;" or "*en bilboquet*." Add to these the pessaries invented by Bauhin and Saviard:

part, and made very smooth. There is a hole in the centre, to allow the escape of any discharge, and small holes are occasionally made at the side of the large one, for the same purpose.

Others are globular[1] and hollow, and either round or oval.

"That of Bauhin is a circle of silver supported upon a stalk with three branches. The circle is introduced into the superior part of the vagina, so that the cervix uteri can be fixed in it. It is maintained "*in situ*," by a ribbon attached to the lower end of the stalk, and to a bandage round the body." "The pessary of Saviard consisted of a steel spring,—one end of which was fixed to a girdle, and the other, defended by a cushion, was curved so as to reach just within the vagina and to support the uterus."

"An objection raised against Levret's oval pessary, led M. Bruninghausen to construct one resembling the figure 8 (or an hour-glass). Its length ought to be such, that it will rest on two sides of the pelvis, i. e. about 3¼ inches. Its superior surface is concave, perforated in the middle. It is narrowed in its centre from before backwards; its two extremities being broader than the oval pessary, and supported at many points, so that it is less easily displaced."

"The pessaries "*en bondon*," have the form of a cone, perforated longitudinally; the base is in contact with the uterus, and the apex is free and external. The base may be convex, plane, or concave, according to the object to be attained. There are two rings at the outer end for the attachment of a bandage."

"The pessaries "*en bilboquet*" (called also pessaries *à tige*, *à pivot*, or *à petiole*), were invented in the last century by M. Levret, to avoid the pressure exercised by ordinary pessaries upon the rectum and bladder. They consist of an ordinary concave flat pessary, from the under surface of which proceed three branches, afterwards united into one stalk, of sufficient length, and furnished with a ring for the attachment of a bandage, by which it is secured in its position."

The latter kind are inconvenient; they get displaced, and may do mischief: they are principally useful when the perineum is ruptured.

"Pessaries are made of various shapes, as well as of different materials, adapted to different cases and circumstances. For the majority of cases, a circular or an oval pessary answers sufficiently well; but the circular pessary can only be safely used in those cases where the disease has not made great progress, and where the tone of the vagina is not much impaired." "It will seldom be safe to introduce a circular pessary, the diameter of which exceeds 2½ inches. No instrument of this kind should measure in thickness at its external edge, less than ⅛ of an inch, lest it should injure the parts by its edge: it should become gradually thinner as it approaches the centre, in which there should be an oval opening large enough to hold the end of the fore-finger of the surgeon, in order to enable him to place the instrument. A number of holes may be pierced through the instrument in different parts, by means of which it is rendered much lighter, and the secretion from the upper part of the vagina, as well menstruous as mucous, can more readily pass through it."

"A pessary of an oval form is best adapted to those cases in which the tone of the vagina is so very much diminished as to make a large support necessary; because in this case the oval pessary rests by its two extremities upon the sides of the vagina; but lying with its long diameter applied to the short diameter of the female pelvis, it neither interferes with the rectum nor with the urinary passage. If the case should require it, an oval pessary may be used, of a size so large, that it may measure 3¾ inches in its long diameter, without any injury to the parts."—Clarke on Diseases of Females, vol. i. p. 113, et seq.

[1] First invented by Dr. Sandys, of London. Denman's Midwifery, p. 66.

Dr. Blundell prefers the "globular or oviform, as it gives to the descending parts a very considerable bearing, by means of its broad surface."[1]

M. Cloquet has proposed a cylindrical one, flattened before and behind, and terminated by an oval depression.

"A form of instrument has been made for cases of lacerated perineum, with a stalk, to enable the women to secure the instrument in the parts, but this stalk is very apt to irritate the labia, and the author has hardly known a case in which it could be employed with advantage."[2] This resembles very much the "*pessaires à bilboquet*," of the French, which have already been noticed.[3]

"A good pessary," says Sir C. Clarke,[4] "should combine firmness, lightness, and closeness of texture:—firmness, that it may not yield to pressure; lightness, that it may not incommode by weight; and closeness of texture, that it may not imbibe the secretions of the vagina. Those made of boxwood, possess all these advantages; and this wood, not being scarce, can easily be procured."

[1] Diseases of Women, p. 35.

[2] Clarke, Diseases of Females, vol. i. p. 122.

Sir C. Clarke has the following contrivance for retaining a globular pessary "*in situ*," in cases when the dilatation of the parts is excessive. "In the first place, a pessary is to be chosen of the size which the case requires, and a small slip of brass is to be attached to it by its two ends, leaving a space between the instrument and the centre of this piece of brass: a belt of leather, long enough to go round the patient's body, is also to be prepared; to the centre of which, behind, a brass wire, as thick as a common quill, is to be attached by a screw. This wire is now to be properly bent; and the pessary being introduced into the vagina, the wire is to be passed between the pessary and the piece of brass attached to it; and being brought up between the thighs, it is to be attached to the fore part of the circular strap. The reduced parts are by this means supported by a pessary, and this is kept in its place by the unyielding piece of metal."—Diseases of Females, vol. i. page 127.

Will not the irritation caused by the brass wire be greater than that caused by the stalk of the instrument objected to by Sir Chas. Clarke.

Dr. Waller, in a note appended to his edition of Denman, describes an instrument which he has used with great benefit, especially in cases of lacerated perineum; "it is made by *Mr. Laurie*, of Bartholomew-close, and consists of an elastic steel circular spring which surrounds the body, and rests just below the hips: it is fastened behind with a strap and buckle; two small studs are fixed to the centre of this spring in front, to which a curved steel wire is attached by means of straps; this wire forms a sort of hook, of proper length and curvature, to be passed up the vagina as high as the natural situation of the os uteri; upon this hook a pessary is mounted, composed of cork, well padded, and covered with india-rubber, in order that it may not be affected by moisture. The straps at the upper part of the wire act as hinges, and by so doing, permit the free motion of the body; they can very easily be removed from the studs, so that the pessary may be taken away at pleasure without unbuckling the circular spring. In front of the body spring is attached a short elastic piece of steel, with a groove in it, which plays upon the wire hook, and prevents the pessary from being forced out of its place."—Denman's Midwifery, p. 68.

[3] Nauche, Mal. prop. aux Femmes, vol. i. p. 95, 96.

[4] Diseases of Females, p. 113.

The merits of the different kinds of pessaries may be very well summed up in the words of a French author:—

"Le meilleur sera celui qui remplira le mieux le but auquel il est destiné, sans comprimer ni blesser les parties qu'il touche, et surtout sans géner l'issue de l'urine ou des matières fécales."[1]

An attempt has been made to construct a pessary which could be expanded to any size, *after* its introduction into the vagina. Dr. Thomas Simson, of St. Andrew's, contrived such a one,[2] but the profession, generally, has preferred the more simple kind.

The mode of introducing the ordinary pessary is very simple.[3] The patient being placed on her side or back, the long diameter of the instrument is to be placed in accordance with the long diameter of the lower outlet, or, in other words, it is to be passed through the external orifice edgeways. When fairly in the vagina, it must be partially turned, so as to place it transversely across the pelvis, and above the tubera ischii. The os uteri should be felt through the opening in the pessary, if it be a flat one.

The first part of the operation gives a good deal of pain, and should be performed gently, and with a rotatory motion.

The globular pessary is more easily introduced, and requires no placing internally, but I have found it far less useful, except in cases of lacerated perineum; in them it is retained better than the other kinds[4] (Clarke; Blundell).

When the irritability of the vagina is too great to bear a hard pessary, the patient may sometimes succeed in retaining a gum elastic one (Nauche).

Whichever kind we use, it should be withdrawn occasionally. If there be much discharge, once a month will not be too frequent; but if not, once in three or six months.[5] Very serious consequences have resulted from neglecting this precaution.

[1] Capuron, Mal. des Femmes, p. 309.

[2] See Edinburgh Medical Essays and Observations, vol. iii. p. 288. Davis, Obstetric Medicine, plate 11, fig. 3. Leipzig Comment. vol. ix. part i. p. 127.

[3] See Clarke on Diseases of Females, vol. i. p. 118.

[4] "Ball pessaries are perhaps best adapted to the unmarried; ring pessaries to the married; the sponge to those who are very irritable; the stem to those cases in which no other form of pessary will remain; larger pessaries are fit for permanent use; pessaries used in the day only should be smaller; the smaller the pessary the better, provided the parts are duly supported; a compress and bandage will, in many slighter cases, supersede the pessary; the same contrivance may be a useful help in supporting a pessary."—Blundell on Diseases of Women, p. 55.

[5] "Pessaries, once fairly introduced, may often be worn for many years, without any or very little inconvenience. But sometimes, from the long continuance of a common one, or from the enlargement and strangulation of the os uteri within the opening at the centre, (which ought always to be very small), there has been much difficulty in withdrawing it, when necessary. In the latter case, the strangulated os uteri must be pressed firmly, and for some time, between the finger and thumb, till the size is reduced, when it may be extricated. But if it be possible to pass a piece of tape through the circular opening, and if we pull in a proper direction by both

Various objections have at different times been made against the employment of pessaries,[1] and latterly they have been repeated, and urged with all the moral weight derived from long experience and high standing in the profession.[2]

ends of it, with a firm and gradually increased force, so as to give the parts time to distend, we can hardly fail of success. Should that not be possible, the rim of the pessary must be broken, or divided by a pair of sharp, strong forceps, of the kind used by watch-makers. The globular pessary may at any time be extracted with a small vectis."—Denman's Midwifery, p. 67.

[1] After recommending injections and tonics, Dr. Leake remarks that they are "in every respect preferable to the application of those painful and indelicate instruments called *pessaries*, so often made use of with a bad effect, for, instead of strengthening a weak part, they lay additional stress upon it, and consequently are highly improper."—Diseases of Women, p. 136.

He mentions further three objections: 1. That, if too small, the pessary will not rest in the passage, but will be forced out. 2. If too large, it will occasion profuse leucorrhœa and great pain: and 3. That it has been known to make its way into the rectum.

In the American Journal of the Medical Sciences for Aug. 1836, there is a paper by Dr. Annan of Baltimore, on a method of relieving prolapsus uteri. Speaking of pessaries, he says, "Irritation is the inevitable consequences of the constant pressure of a foreign body, upon the delicate membrane lining the vagina, and in many instances it becomes insupportable, and the pessary cannot be worn."—"Ulceration has been produced in many cases; and a communication has been established between the rectum and vagina, and the pessary has passed into the bowel."

"Another objection to the pessary is, that it dilates the vagina, and when removed, the uterus has a better opportunity for descending than it previously had." In consequence of these inconveniences, Dr. Annan had an instrument constructed, "the upper part of which resembles the spring and main strap of a common double truss, wanting the pads, and is designed to embrace the sacrum and wings of the ilion." To this circular spring, another is attached at right angles and in front, of sufficient length to reach to the anterior edge of the perineum, and terminating in a soft pad; "and so great a degree of curvature was given to this spring that it lay outside in front of the labia," and the relief afforded was complete. It was equally successful in several cases. The curved spring should be 8½ or 9 inches long, and the tempering must be omitted.

[2] Prof. Dieffenbach, of Berlin, has recorded his opinion of the value of pessaries in the Berlin Medicinische Zeitung, No. 31, 1836. "I have frequently seen them produce putrid discharges from the vagina; in other cases, dilatation to a most inconvenient extent; in others, contraction of the same organ, and finally in other females, the still more dangerous accidents of cancerous or fungus productions from the vaginal mucous membrane. Sometimes I was able to extract the foreign body with my fingers, but in many other cases it was necessary to break it up with strong forceps, before the fragments of a stinking, encrusted substance, whose composition could not easily be determined, were removed; several patients laboured under excessive irritation of the bladder, and when the foreign body was large, many suffered for years under obstinate constipation." "On the other hand, however, it cannot be denied, that pessaries and the sponge are sometimes useful, when properly employed by a skilful hand." The professor proposes to supersede the use of the pessary by an operation which he performed in the following manner on a case of prolapsus uteri: "After having emptied the bladder and rectum, I commenced by removing, from the left side of the vagina, a portion of the mucous membrane, resembling in size and shape

As far as I have seen, they may be arranged under the following heads :—

1. They are indelicate (Leake).

2. If too small, they will not rest in the passage, but be forced out, and consequently do no good (Leake.)

the section of a hen egg; the small end of the ellipse being directed backwards, the oval end forwards, and touching the nymphæ." "After having cleaned the edges of the wound, I placed five strong stitches on either side in the following manner:—the two posterior sutures on each side were first applied, the uterus was then returned to its natural position, and the rest of the sutures were finished; had they all been applied in the first instance, it would, perhaps, have been impossible to have returned the uterus afterward. If we except burning pain in the vagina, and a moderate febrile movement, the symptoms which followed this operation were not very remarkable. The patient underwent an antiphlogistic treatment, and cold injections were thrown up every hour into the vagina." Some of the sutures were ultimately divided with the scissors, and some came away of themselves. The woman recovered, and the operation was successful. The professor has repeated the operation many times since, with equal success. Fewer ligatures were employed, generally three, but sometimes none at all, "for the edges of the wound frequently came in close contact with each other after the reposition of the uterus." "In several cases, after having replaced the uterus, I have performed the operation by merely removing a fold of the vaginal wall, which was drawn forward with Museux's forceps, and then clipped off; this is much the easier method of the two; but the surgeon should always be on his guard against the danger of wounding the bladder or rectum, which might take place if a deep fold of the vaginal parietes was removed close to its base."—Lancet for May 20, 1837, p. 303.

Dr. Hamilton makes the following objections to the use of pessaries:—

"1st. They can only act as palliatives, whatever may be the degree of the disease.

"2d. They necessarily keep up a continued irritation in the passage, and of course a mucous discharge from the vagina.

"3d. Unless properly adapted, they make injurious pressure on the contents of the pelvis.

"4th. If not frequently taken out and cleaned, they become encrusted with a calcareous matter, which proves highly irritating.

"5th. They subject the patient to the charge of the medical attendant for life.

"And lastly, Cases from time to time occur, where, from the laceration of the perineum, &c. no ordinary pessary can be retained.

"Between 20 and 30 years ago, the author ventured upon an experiment for the relief of cases where no pessary could be retained. His object was to excite inflammation of the internal surface of the vagina, in the hope that adhesions would succeed, as he had heard of one case where an unexpected cure had in this way happened." (p. 22.) This was done once by introducing "a ball of the emplastrum ceral into the vagina," and a second time by means of a bag of alum; inflammation and sloughing followed, no adhesion took place. "These experiments having failed, the author was induced, in one very bad case, to sanction a surgical operation, viz. the bringing together the sides of the vagina by means of ligatures. The operation was very ably performed by Mr. Liston, but no union was effected, and the sufferings of the patient were such, that the author resolved never to be again a party to such a practice." (p. 24.) Having thus failed to provide a substitute for pessaries, Dr. Hamilton continued to use them, until a severe accident, resulting from the carelessness of the patient, determined him to banish them from his practice. (p. 25.) Instead of them he has since

3. That they irritate the vagina, and give rise to leucorrhœa (Hamilton), especially if too large (Leake ; Murat).

4. That they cause irritation, ulceration, and fungous growths (Murat ;[1] Annan ; Hamilton ; Dieffenbach).

5. That they give rise to putrid discharges from the vagina (Murat ; Dieffenbach).

6. That they occasion dilatation of the vagina (Dieffenbach).

7. That they cause contraction of the same organ (Dieffenbach).

8. That patients have suffered under irritation of the bladder or constipation (Dieffenbach), whilst using them.

9. That the pessary has become so encrusted with earthy matter as to require breaking before it could be extracted (Murat; Dieffenbach ; Hamilton).

10. That a pessary has been known to make its way through the walls of the vagina, and into the rectum (Dieffenbach ; Annan ; Hamilton).

With regard to the first objection, if true, this operation only shares equally with all midwifery operations, nay, it is not a whit more indelicate than making a vaginal examination.

If the second or third objections be valid, it must be owing to an error in calculation, and if the operator be watchful, he will speedily obviate it.

The fourth, fifth, eighth, ninth and tenth, are only applicable to cases of gross neglect, on the part of the patient or medical attendant, and cannot for a moment be admitted as any argument against the proper use of the pessary.

As to the sixth and seventh, they cannot both apply to one case; undoubtedly, a pessary will keep that portion of the canal in which it is situated in a state of dilatation; but, with equal certainty, the

employed the T bandage, with "a cushion interposed between the outlet of the pelvis and the cross strap of the bandage" (without any pessary), "and the experiment succeeded completely, for the patients felt perfect relief. In every case, therefore, of prolapsus uteri, whatever may have been its degree, to which he has been called for some years past, he has suggested this very simple contrivance.

"In cases of short standing, the circular may be made of fine linen or jean, lined with shamoy leather, but in more serious degrees of the disease it ought to be made of tempered steel like that of the common truss. The cushion is to be stuffed with horse hair, and ought to be, generally speaking, about six inches in length by three in breadth. Its thickness must be adapted to the individual case, that is, the greater the degree of relaxation of the soft parts at the outlet of the pelvis, the greater should be the thickness of the cushion. It is to be tacked to the cross strap of the bandage, so as to press firmly upon all the parts requiring support. In some cases where the perineum had entirely given way, the author has found it necessary to combine the prolapsus ani bandage with the cushion.

"This bandage is to be worn whenever the patient is out of bed, as long as any symptom of the disease is perceived.

"It effectually relieves the unpleasant feelings, while it enables the patient to take walking exercise, which is so essentially necessary to the relief or cures of the disease."—Pract. Obs. pp. 28, 29.

[1] Dict. des Sciences Med. vol. xli. art. Pessaire.

vaginal orifice will be relieved from the distension caused by the prolapsed uterus; and if, every time the pessary be changed, one of a size smaller be introduced, it will be found quite adequate, and in many cases a permanent cure may at length be obtained.

With due respect, therefore, to the eminent authorities just quoted, their arguments do not seem conclusive against the proper use of pessaries. On the other hand, there is ample evidence, from well authenticated facts, to show that the judicious employment of these instruments, so far from being injurious, is in many cases beneficial, and even preferable to any other plan of treatment.

Even Dieffenbach himself acknowledges their use in many cases, and I am happy to quote the additional authority of an able critic, in the British and Foreign Medical Review.[1]

Messrs. Murat and Patissier recommend the use of several varieties of pessary, even whilst pointing out most strongly the evil consequences which may result from neglect.[2]

Nauche mentions no objections to their use, but merely guards against their abuse.[3]

Capuron and Denman recommend their employment as a matter of course.[4]

Burns observes, "By diminishing gradually the size of the pessary, and using astringents, we may perhaps be able at last to dispense with it."[5]

Dr. Blundell[6] advises their use, and their re-introduction, though

[1] In a review of Dr. Hamilton's Practical Observations, the writer thinks the German (Osiander), as well as the English professor, has been much too hasty in his condemnation of an instrument, which, when skilfully employed, is certainly not liable to produce the mischievous effects which they attribute to it." (British and Foreign Review, No. 5, p. 134.) And again, (No. 7, p. 189.) "Pessaries, properly used, may and sometimes do *cure* the prolapsus. We know this from our own experience. We cannot admit that "they *necessarily* keep up a constant irritation in the passage." We have frequently applied them, and the patients have worn them for a considerable time, with the greatest comfort and relief, and without the smallest uneasy sensation being produced by them. It is true, that "unless they are properly adapted, they make injurious pressure on the contents of the pelvis." But this is only an objection to the abuse of the instrument. Dr. H.'s fourth objection is, that if the pessary be "not frequently taken out and cleaned, it becomes encrusted with a calcareous matter, which proves highly irritating." Granted; but every practitioner guards against this mischief by giving proper instructions to his patient. In severe degrees of prolapsus uteri, whatever may be the treatment adopted, the patient may long, and perhaps for life require medical care; but we know, from cases we have treated, that there are very many exceptions to the alleged fact, that pessaries "subject the patient to the charge of the medical attendant for life." We do not deny that cases from time to time occur where no ordinary pessary can be retained."

[2] Dict. des Sciences Med. vol. xli. art. Pessaire.

[3] Mal. prop. aux Femmes, vol. i. p. 93, et seq.

[4] Mal. des Femmes, p. 308, et seq.

[5] Midwifery, p. 131.

[6] Diseases of Women, p. 35.

they may have at first to be withdrawn on account of exciting irritation.

We think, therefore, we are justified in drawing the following conclusions:

1. A pessary may be applied when there is neither irritation, inflammation, nor organic disease of the womb, vagina, or neighbouring viscera.

2. Its size and shape should be accurately adapted to the size of the pelvis, and the peculiarities of the case.

3. The patient must be carefully watched after its introduction, and if there be necessity, the pessary must be withdrawn for a time, and resumed (Blundell[1]), or altogether abandoned.

4. If the patient tolerate the instrument, it should nevertheless be removed occasionally, for the purpose of cleanliness: the frequency will depend upon the character and amount of the discharges.

5. If possible, a fresh pessary should be introduced after each removal, and one of a smaller size than previously.

But there are some cases, as Dr. Hamilton justly observes, where pessaries cannot be employed, and in such cases it is fortunate for us that we are not without other remedies.

We may try Dr. Annan's pad, or Dr. Hamilton's compress; each mode may have its advantages in particular cases, though the principle of each is the same, viz:—applying support to the external orifice. Prolapse will thus be prevented, but the procidentia may still exist; the force applied has no power of maintaining the uterus at its natural level in the pelvis.

If this be the case, I do not see but that the objection stated against pessaries, viz:—that they continue the undue dilatation of the passages—applies with equal force to this plan, for if the uterus be allowed to fall to the floor of the pelvic cavity, the vagina will be kept in a dilated state by it.

[1] After the uterus has been replaced, you will find sometimes that a great deal of pain and fever are produced, so that you begin to be alarmed lest abdominal inflammation should ensue. Now if these symptoms be considerable, you had better take away the pessary, and let the parts come down again. Bleeding from the arm, leeches to the abdomen, fomentations, poultices, relaxation of the bowels, in fact all the ordinary remedies, appear to be indicated. If the symptoms are slight, and the pulse do not rise above one hundred or one hundred and five in the minute, I should then feel inclined to suffer the pessary to remain, taking care to empty the bladder and to keep it empty, so that more room might be left for the uterus; at the same time using fomentations to the abdomen, applying leeches, and perhaps taking away a little blood from the arm."

"If the symptoms arising from the pessary have been so violent that it should be deemed necessary to take it away, and suffer the parts to come down again, I should not, therefore, abandon my attempt; but in a few weeks afterwards, perhaps, I should resort to the pessary again, leaving it in for two or three hours, or till the same symptoms began to appear, then again removing and introducing afresh after they had subsided; and thus applying the pessary longer and longer every time, I should hope to habituate the parts to its presence, so as, in that manner, to effect a permanent replacement."—Blundell on Diseases of Women, p. 35.

Of the relief afforded, however, both Dr. Annan and Dr. Hamilton speak most highly, and the reputation of the latter gentleman is so deservedly great, that whatever he states is entitled to great respect. If the expectations I had formed on reading his paper have not been realised in practice, it must be because the trial has been too limited.

A more decided and permanent mode of relief, is afforded by the operation first proposed by M. Girardin, and which resembles the one adopted for the cure of prolapsus ani by Hey and Dupuytren, &c. It has been performed with some modifications in Britain, by Drs. Marshall Hall, Heming,[1] and Ireland;[2] in Germany, by Professor Dieffenbach,[3] Dr. Fricke, &c., and in France, by Velpeau and Berard.[4]

This consists in removing a portion of the vaginal mucous membrane, and uniting the opposite edges of the wound, so that when healed, the calibre of the canal shall be diminished by the breadth of the strip removed.

The operation is easily performed; the patient being placed on a table in the position adopted for lithotomy, and the urine having been evacuated, the uterus is then to be drawn downwards, or to either side according to the part from which it is intended to remove the strip of mucous membrane.

In Dr. Hall's case, it was removed from the anterior part of the tumour.

Professor Dieffenbach, we have already seen, (page 231, note,) prefers removing a portion from each side.

Dr. Ireland, who has performed this operation twice—and with the success due to his skill—in the first case, removed a broad strip from the side, and in the last, from the anterior and posterior surfaces.

The operation may be commenced either at the uterine or vaginal orifice, taking care to remove as little as possible besides the mucous membrane, and to avoid wounding the bladder. The strip should be somewhat triangular, the apex towards the os uteri.

The ligatures, (three will generally be enough,) should all be inserted before any are tied, and then we may commence with the one nearest the os uteri, which should be pressed inwards as each ligature is tied, until it enters the cavity of the pelvis, when the last is tightened.

There is little hemorrhage; any vessels which are divided may be twisted, or cold may be applied for a few moments, which will suffice.

[1] London Med. Gazette, vol. ix. p. 269, and Boivin and Dugès, Diseases of the Uterus, (note by trans.) p. 53.

[2] Dublin Journal, vol. vi. p. 484.

[3] Berlin Med. Zeitung, 1836. Lancet, May 20, 1837.

[4] Medical Gazette, Nov. 21, 1835. See also Rognetta, Bull. de Therap. Med. Chir. Sept. 1835; Bellini, Bulletino delle Scienze Med. Jan. 1836.

The patient complains of no pain from the excision, except when dissecting about the os externum.

Subsequently the patient occasionally suffers from heat and pain in the vagina, with a slight discharge. Vaginitis may set in and require the removal of the ligatures (Dieffenbach), and the employment of antiphlogistics.

The ligatures come away at various intervals, from a fortnight to three weeks or a month.

Cold vaginal injections should be given two or three times a day. The diet of the patient should be moderate, her bowels freed by enemata, and she herself kept in a state of perfect rest.

The success of this ingenious operation has been perfect. Dr. Hall's patient "was examined by Mr. Vincent, surgeon to St. Bartholomew's Hospital, at the beginning of the present month, (November, 1833), two years after the operation, and the uterus and bladder were found perfectly supported in their proper situation." (Heming.)

Professor Dieffenbach speaks of the complete recovery of many persons owing to it.

One of Dr. Ireland's patients is perfectly well, and quite free from all the distressing symptoms of procidentia, or prolapse, and the uterus is maintained in its natural situation. The other is in hospital at present, and going on very well.

After repeating the history of Dr. Hall's case, Dr. Davis observes, "that the practice suggested by his friend's case cannot be considered an eligible one for child-bearing women; inasmuch as any considerable contractedness of the vagina, which the abstraction of a large portion of its substance might be expected to produce, and which, in practice, it might not prove an easy thing to confine within any assignable limits, could not fail to render labour difficult and even dangerous. Experience, and more correct knowledge of the extent of consequences to be expected from such an operation, than we now possess, may possibly eventually lead to a relaxation of the principle on which the practice here suggested professes to be founded."[1]

In his admirable "retrospective address" to the Provincial Medical and Surgical Association, Mr. Crosse remarks, "The result has, in a great majority of instances, been favourable, and the most zealous pursuer of this method, Dr. Fricke, who has, in repeated correspondence, favoured me with his remarks, refers to an instance of *episoràphie*, where the patient afterwards became pregnant, and was delivered by the forceps without the artificial bridge giving way."[2] Dr. Fricke cured three out of four.[3]

It would not, however, be advisable to undertake the operation,

[1] Davis, Obstetric Medicine, vol. i. p. 567.

[2] This case has been published by Dr. Plath, in the Zeitschrift für die gesammte Medecin, vol. ii. p. 142.

[3] Transactions of the Provincial Medical and Surgical Association, vol. v. p. 92.

unless the uterus, appendages, and neighbouring viscera, were free from disease.

An attempt has been made, as Dr. Hamilton relates, to cure the disease by procuring adhesion between the walls of the vagina, or opposite surfaces of the labia, but generally without success, in consequence of the indisposition of mucous surfaces to unite.

"M. Langier cauterised a broad strip of the mucous membrane with the nitrate of mercury,"[1] but it did not succeed.

The application of a red hot iron to the mucous membrane, so as to cause it to shrivel up and contract, has been proposed and tried by the same author, but as I am not aware of the results, I can do no more than mention it. It certainly does not appear so feasible a plan as the removal of a portion of the membrane.

The constitutional treatment of the patient, after the reduction of the prolapsus will require care. Tonics may be necessary and aperient enemata. For some short time the patient must avoid exertion, but after a few days she will be able to go about as usual, except in the more severe cases.

In some instances where pregnancy has occurred with prolapsus uteri, or prolapsus uteri at the latter end of pregnancy, reduction has been effected (Mauriceau; Giroud); in others it has been found impossible. (Kulm, Capuron, &c.)

As to the treatment of the prolapse which has occasionally happened during labour, we are advised to dilate gradually the uterine orifice (Portal and Pichausel), so as to hasten the delivery, and, if necessary, to make one or two incisions into the cervix (Marrigues; Capuron).

"If the woman is at the end of pregnancy, or if the womb was to descend during delivery, provided the os uteri came into sight through the external parts, I suppose it would be your duty to dilate the os uteri with your fingers, and in this way accelerate the birth of the child as much as possible; but if it was down a little way merely I should not meddle with it, but leave the woman to her own resources. But if in the latter months the womb were lying externally and between the limbs, and it could not be put back, I should recommend the bringing on of delivery, by puncturing the membranes, and then when parturition came on, I should as before assist in dilating the os uteri. In Hervey's case, it was proposed to extirpate the uterus, but I certainly prefer the induction of parturition before extirpation."[2]

[1] Langier sur la cauterization du vagin au fer rouge. Encyclop. des Scien. Med. vol. 37, p. 192, Sept. 1835.

[2] Blundell on Diseases of Women, p. 43.

CHAPTER XXIII.

INVERSION OF THE UTERUS.

Inversion of the uterus differs widely from prolapse; for, in addition to the depression common to both, in the former the uterus is turned inside out. The fundus descends through the os uteri, forming a cavity lined by the peritoneum, open towards the abdomen, and containing the ovaries and fallopian tubes; whilst that which was formerly the lining membrane of the uterine cavity, has become the external covering of the tumour.

The degree of inversion may vary; it may be *partial* or *complete* (Dailliez; Leroux). Mr. Newnham,[1] who has published a valuable monograph on this subject, has spoken of three degrees,—*depression*, *partial* and *complete* inversion. With regard to the first, he observes,[2] "The fundus of the uterus is depressed within its cavity, but does not form a tumour in the vagina. The actual existence of this stage of the disease can only be known by introducing the finger into the uterus, and by ascertaining the state of that organ by pressure upon the abdomen. By the *former process* the fundus of the womb will be found to have approached the os internum, and by the latter a corresponding depression will be observed, instead of that regular contraction which is so familiar to every prudent practitioner. This state is generally accompanied with an effort to bear down, by which it is often converted into *partial* or even *complete* inversion." Of course so slight a change in the uterus is only perceptible through the parietes of the abdomen, when the patient has been recently delivered. In the unimpregnated uterus such an examination would yield no information.

"When the inversion is *partial*," continues Mr. Newnham, "the fundus of the uterus is brought down into the vagina, forming a tumour of considerable size, presenting a semi-spherical form, and closely invested by the os uteri. In this case the depression of the fundus, observed through the parietes of the abdomen, will be considerably greater than in the former, and the edge of the cavity thus formed will alone be felt.

"In the *complete* inversion, the uterus will be found not only filling the vagina, but protruding beyond it, resembling, in its form, that of the uterus after recent delivery, only that its mouth is turned towards the abdomen. The os uteri may be felt at the superior extremity of the tumour, forming a kind of circular thickening at its apex, and the uterus is wholly wanting in the hypogastric region. This state is usually accompanied with inversion of the vagina."[3]

[1] An Essay on the Symptoms, Causes, and Treatment of Inversio Uteri, &c. by W. Newnham, Esq. I feel great pleasure in acknowledging my obligations to this admirable essay.

[2] Essay, p. 2.

[3] Essay, p. 3.

Inversion may occur under very different circumstances; as, for example:—1. *Immediately after delivery*—as the result of a peculiar condition of the uterine fibres (Radford), of too quick delivery, &c. 2. *A few days after parturition* (Ané; Baudelocque), though Newnham conceives that, in these cases, *depression* of the fundus existed from the first. 3. Or, *very gradually*, in consequence of a polypus attached to the fundus, the uterus not being pregnant (Jourdan[1]). Capuron and Newnham doubt the existence of such cases; but I shall cite one hereafter which I witnessed myself, and of the nature of which no doubt could be entertained.

We may be deceived, however, and suppose an inversion to have occurred gradually, because it has remained long undiscovered. Levret mentions a case occurring after delivery, which was not detected for five years.

By almost all authors inversion has been divided into *acute* and *chronic;* not, however, confining the term chronic to cases where the production of the inversion has been slow, but including all those where it has existed for some time. The division appears to me to be useful and practical, though perhaps not conveying as much information as the terms "*reducible*" and "*irreducible*," which my friend, Mr. Radford,[2] of Manchester, has recently proposed as the substitute.

Causes.—Various causes are enumerated by authors, some of which are real and some only fanciful. Most of them, however, are such as would act merely mechanically. It has been observed to follow very quick labours, especially if the patient be delivered standing (Jourdan; Chisholm;[4] Radford), or if she make too violent efforts (Newnham).

It may occur spontaneously, after the labour has been completed quite naturally (Waller;[5] Radford,[6] &c.); and in these cases it has

[1] Dict. de Med. vol. xxiii. p. 289.

[2] Essay on Inversion of the Uterus, in Dublin Journal for Sept. and Nov. 1837.

[3] Essay on Inversion of the Uterus, in Dublin Journal for Sept. and Nov. 1837.

[4] Med. Communications, vol. ii.

[5] At the end of Denman's observations upon inversion, Dr. Waller subjoins a case related to him by Dr. Williams, of Guildford street, which convinced him of the possibility of spontaneous inversion. "The Doctor had attended a lady in her fourth labour, the pelvis was of ample dimensions, the child soon expelled. The fundis was tied and the child separated: immediately afterwards there was a long expulsory pain, by which Dr. W. naturally enough inferred that he should find the placenta detached and thrown off. On regaining his seat by the side of the bed, and making an examination, he felt a large substance protruding from the vagina, which proved to be the organ in an adverted state. The organ with the placenta still adhering, was promptly returned to its proper situation, and every thing went on favourably."—Waller's edit. of Denman's Midwifery, p. 424, note.

[6] "The subject of this accident was Mrs. Birch, of Great Bridgewater-street, a well-formed healthy young woman, and this was her first confine-

been attributed to atony of the uterus (Newnham), or to active contraction of one part with an atonic condition of another (Radford[1]).

It is very credible, that violence in extracting the placenta

ment. I was summoned to her on the 17th day of May, 1826, about 3 o'clock in the afternoon. I found her walking about the room, with pains, bearing down and effective; in a short time after my arrival, whilst leaning forward on the bed, she was delivered of a fine healthy male child; from this position, (as soon as the child was separated,) she was removed carefully into the bed; in less than ten minutes she had a slight pain or two. My patient expressed some fears lest the placenta "*should stick*," but on my making an examination *per vaginam*, I distinctly felt the insertion of the funis into the placenta, and relieved my patient of her fears as to its being retained unduly. I had scarcely assured her all was likely to terminate well, when she was suddenly seized with a violent bearing down pain; and on making a further investigation, discovered, what I took, for the instant, to be the placenta pushed forward by a second child's head, but having recourse to ocular investigation, I was soon undeceived in this respect, and found the uterus inverted, and which had passed externally from the vagina and the placenta attached to it. I felt very much alarmed for the fate of my patient. I first peeled the placenta from the fundus uteri, and then grasping the extruded part with my hand, I did not find it very difficult to re-introduce it into the vagina and to carry it through the os uteri. I followed with my hand, or rather pushed it forward, when I observed it suddenly start from me as a piece of india-rubber would. I was now called by the nurse to examine the state of my patient, which indeed was very alarming; her face became suddenly pale and bedewed with cold sweat, her pulse was rapid and unsteady, there was great prostration of strength, and a threatening of convulsions and death. Brandy and laudanum were immediately administered in free doses, hot flannels and frictions were applied to the extremities, &c." She ultimately did well, and the author adds, "I would remark, 1st, that this inversion was entirely spontaneous, as I had not even taken hold of the funis at the time it happened. Secondly, as there was no hemorrhage, and as the re-inversion was effected in a few seconds, it is somewhat difficult to account for the sudden depression of the vital powers, amounting nearly to dissolution."—Case by Mr. Mann in Mr. Radford's paper.

[1] "It appears to the writer, that the uterine pain, diminution of bulk, firm resisting feel, sudden formation, and rapid protrusion, warrant him in the deduction that the *fundus* and *body* of the uterus, so far from being in a state of *collapse* or *relaxation*, are really in a state of *unnatural excitement* and *action*. But this is not the case with the os uteri; on the contrary, it is soft and yielding, as we find that it offers no resistance to the coming down of the tumour, whose protrusion is forcible and rapid."

"From what has been stated, it may be concluded, that quick labour, whether natural or artificial, or a disturbance of this process in any of its stages, and all those circumstances which produce irregular contraction of the uterus, are, singly or combined, the causes of inversion."—Radford's Essay in Dublin Journal.

Nauche considers the inactive state of the uterus, and some effort made by the patient or by an attendant pulling the cord, as the principal causes.—Mal. prop. aux Femmes, vol. i. p. 131.

Capuron enumerates, as *predisposing* causes, the development of the womb, the dilatation of its orifice, and the atony or flaccidity of its walls. The *exciting* causes may be the weight of the fundus—violent expulsive efforts—tractions by the funis—and the dragging downwards by a polypus. Mal. des Femmes, p. 495.

Henkel attributes this accident to violent after-pains; Meissner to a bodily predisposition, owing to laxity of fibre.

may be followed by inversion (Manning;[1] Newnham; Clarke), or, as Denman observes,[2] "there is reason to believe that the uterus has been inverted, when, on account of a hemorrhage, or some other urgent symptom, the hand has been introduced within the cavity of the uterus, while in a collapsed or wholly uncontracted state, and the placenta being withdrawn before it was perfectly loosened, the fundus of the uterus has unexpectedly followed, and a complete inversion has been occasioned." Forcibly pulling the funis, for the purpose of detaching the placenta, may, perhaps, under certain circumstances, give rise to this accident, but it is not a frequent cause.[3]

Shortness of the funis, or the shortening of it by coiling around the neck of the fœtus, has also been alleged (Denman; Davis, &c.); but I believe without any foundation. Cords of ten inches long will permit, and have permitted, the exit of the fœtus without displacing the womb, and it is very rare, indeed, to find the funis so short.[4]

Siebold says that atony of the uterus, with a large pelvis and the too rapid abstraction of the contents of the uterus, may expose the patient to inversion. Handbuch der Frauenzimmerkrankheiten, vol. iii. p. 365, et seq.

Boivin and Dugès enumerate as among the principal causes of inversion—a flaccid distensible state of the uterine parietes; inertia of the uterus, especially if at the same time an effort be made for the extraction of the placenta; irregular uterine contraction; too prominent sacral promontory; dragging at the cord; and uterine polypus.—Diseases of the Uterus, p. 117, et seq.

[1] On Female Diseases, p. 285.

[2] Midwifery, p. 421.

[3] "The practice of pulling too early and too violently at the cord," says Mr. Radford, "after the expulsion of the child, before the uterus has contracted, so as to detach and expel the placenta, has been generally considered as the cause of inversion. But we know that the accident happens before any force has been applied to the funis. (Radford's case; Dr. Albers, in Duncan's Annals of Med. vol. v. p. 390; Mr. Windsor, Med. Chir. Trans. vol. x. p. 359; Mr. Dickenson's case, Med. Gaz. No. 372; Dr. Dewees' cases, &c.) In case 4th, the descent was so rapid and forcible through the os externum, that it would have been quite impossible to have resisted the unnatural action by which the organ was carried down (Smith, Medical and Phys. Journ. vol. vi. p. 503). It has occurred when the patient has been delivered of a dead child, the funis so putrid as to break with a very slight effort (Brown, Mem. of London Med. Soc. vol. v. p. 202). It has been found before the cord was separated and the child given to the nurse (Welsh Med. and Phys. Journal, vol. v. p. 451). In the practice of Ruysch, this circumstance took place after he had extracted a dead child, &c." (Obs. Anatom. Chirurg. Obs. 10. p. 13, trans. p. 34).

[4] "Some writers have thought that a short funis is a frequent cause of inversion, whilst others think, in order to act, it must be inserted in the centre of the placenta, and that this mass must be attached to the fundus uteri (Gardien). Now it is evident that if the brevity of the cord is capable of producing so serious an accident, this peculiarity will greatly add to its influence. But amongst the published cases of inversion, there is, so far as the writer knows, but one (Dr. King's, Glasgow Journal, vol. i. p. 17) where this shortness existed. It often occurs without diminished length in the cord, whilst, on the contrary, children are frequently born where it is very

As to the shortening of the cord when it is twisted around the neck, this can never be the cause of inversion, inasmuch as it rarely occurs but when the cord is longer than usual, and it very seldom reduces the length of the cord below twelve inches.[1]

But inversion may occur quite unconnected with parturition, contrary to the assertion of Astruc and some of the older writers.[2] If a tumour form at the upper part of the fundus uteri, it will first distend the uterus mechanically, and then, by its weight, it may descend through the os uteri, dragging the fundus after it, and so produce a complete inversion (Jourdan; Clarke; Nauche;[3] Blundell). Such a case I saw in Jervis street Hospital, and I am enabled to add the particulars by the kindness of Dr. Montgomery, to whose care the patient was confided by Surgeon Lynch.[4]

A curious case of this kind is also related by Dr. Browne, in the Dublin Medical Journal.[5]

short, and yet no such accident happens. (Med. and Phys. Journ. vol. lv. p. 205.) The funis has been ruptured, and the placenta disruptured, and yet the uterus was not inverted." (Gifford's cases, No. 92, 127, 175, 194, 199; Perfect's cases, No. 109, 132; Ramsbotham's cases, 28, 31, 32, 33, 34.) Radford's Essay.

[1] For greater detail, I must take the liberty of referring the reader to a paper I published in the Dublin Journal, vol. xi. p. 21, On the length of the cord, &c. &c.

[2] Diseases of Women, vol. ii. p. 228.

[3] Mal. prop. aux Femmes, vol. i. p. 132. See p. 192.

[4] Bridget Mahon, aged 52, mother of ten children, her last confinement took place nine years ago; admitted into Jervis street Hospital, June 5, 1835, under Surgeon Lynch; was seized about three years ago with whites, which continued for two years; she attributes the attack to excessive mental anxiety and fatigue.

Her health, from the commencement, gradually declined, the debility and emaciation so great that she was frequently obliged to remain in bed.

Being seized with a severe fit of vomiting, she experienced a sensation as if something within her had given way, but did not make any examination at the time; about three days afterwards was alarmed by the appearance of a tumour at the external parts, which she reduced by moderate pressure with the fingers. It remained so for three months, the discharge still continuing. One day she sat down to pass water, the tumour again appeared, but was reduced, and remained so for the next twelve months.

On the first of June, as she stepped over a potatoe furrow, the tumour was completely expelled, suspended between the thighs, in which state it still remains.

Her labours were all easy, and during the whole course of the disease she did not experience any difficulty in emptying either the bladder or rectum.

The tumour consisted, at the lower part, of a large double-headed polypus, attached by a thick and very short pedicle to the fundus uteri, which was completely everted, and formed the upper portion of the protruded tumour.

[5] Vol. vi. p. 33.

A case is related by Leblanc (Mem. de l'Acad. de Chir. vol. iii. p. 379), of a female who "was attacked with violent pains, after suppression of the menses, for three months, and to these succeeded a considerable hemorrhage, which was followed by the protrusion of a voluminous fleshy mass.

Symptoms. We shall first examine the symptoms which arise in *acute* inversion, i. e. when it occurs soon after delivery, and when the displacement is nearly or quite *complete.* These are always serious and alarming, indicating the important nature of the accident. The most universal symptom is a sudden exhaustion, or sinking, which comes on immediately after the inversion. It does not depend upon flooding, for it occurs in many cases where there is no hemorrhage (Albers). The countenance becomes deadly pale, the voice weak, the pulse rapid, small, and fluttering; nausea and vomitings occur, &c. &c. so that the patient is suddenly threatened with the utter extinction of life (Albers[1]).

Several authors speak of more decidedly nervous symptoms, and even of convulsions[2] (Jourdan; Albers; Siebold); but by some, at least, the restlessness and agitation preceding dissolution appear to have been mistaken for convulsions.

When the inversion is slighter in degree, these phenomena will generally be found less strikingly marked.

Hemorrhage, even to a very large amount, not unfrequently occurs, aggravating, though not changing, the symptoms already enumerated, and materially enhancing the danger of the patient. (Nauche; Capuron.)

Mr. Newnham observes, "When the uterus has become inverted, immediate hemorrhage takes place, which is quickly followed by faintness, and a sense of fulness in the vagina, and, in the greater number of instances, almost by immediate dissolution."[3]

Our suspicions of inversion will be excited when this persists longer than usual, and an examination should instantly be made, to ascertain the cause, if possible.[4]

In many cases, however, there is no hemorrhage at all (Brown;[5] White;[6] Albers;[7] Chapman;[8] Hamilton;[9] Radford[10]), or not in

Leblanc recognised a retroversion (*inversion*) of the uterus after a minute examination; he restored the uterus, and the woman recovered perfectly."—Nauche, Mal. prop. aux Femmes, vol. i. p. 131.

[1] Case of Inversion of the Uterus, by Dr. Albers, of Bremen, in Duncan's Annals of Med. 1800, p. 390.

[2] "Fainting and convulsions are not unfrequent attendants, although the hemorrhage have been trifling."—Burns' Midwifery, p. 518.

[3] Essay on Inversion, p. 86.

[4] Speaking of the duty of examining a patient carefully in whom there are suspicions of inversion, Denman observes:—

"The reasons advanced to prove the necessity of ascertaining the inversion, are, 1st. That the patient may be relieved from her present danger.

"2d. That a part of so much consequence may not be suffered to remain in that state, even if there were no hemorrhage or symptoms of immediate danger.

"3d. That if it were not soon replaced, it could not, after a very short time, be restored to its proper situation."—Midwifery, p. 420.

[5] Annals of Medicine, vol. ii. p. 278. [6] Med. Comment. vol. ii. p. 268.

[7] Annals of Medicine, vol. v. p. 392. [8] Treatise, p. 123.

[9] Med. Commentaries, xvi. p. 316. Midwifery, p. 420.

[10] Mr. Radford suggests that the assumption of considerable hemorrhage

proportion to the inversion (Newnham; Dailliez; Burns[1]), but merely the nervous symptoms and exhaustion; nor does the difficulty of rallying the patient seem to be less in these cases than in those accompanied by flooding.

There is generally a very violent uterine contraction immediately preceding or accompanying the inversion (Manning; Boivin and Dugès; Radford, &c.), leading the patient to anticipate a second child; this supposition is further confirmed by the pressure of the inverted uterus as it passes through the pelvis. Even after examination *per vaginam*, we may be deceived, by mistaking the uterus for the breech of a second child.

The patient complains of great pain, with a sense of dragging from the loins (Burns), and occasional retention of urine. If pressure be made on the abdomen, we shall not be able to feel the contracted uterus, and, this being at a time when it is large, constitutes a marked and valuable symptom (Denman;[2] Jourdan).

When the inversion is incomplete, we may often feel the uterus above the brim of the pelvis, but having a cup-like depression superiorly (Capuron).

If we examine *per vaginam*, we shall find a tumor, either in the cavity of the pelvis or hanging through the vulva. This tumour is globular, sensible,[3] elastic, with a rough and bleeding surface, wider below than above, where it is tightly encircled by the cervix uteri. If the displacement be not reducible, it sometimes happens that the tumour is attacked by inflammation, running on into sloughing and gangrene, owing to the strangulation caused by the contraction of the cervix, and ending in the death of the patient.[4] If the placenta have not been previously expelled, it will be found adherent to some part of the tumour, adding greatly to its bulk.

A considerable difference in the size of the tumour will be observed according as the inversion is *complete*[5] or *incomplete*, recent or of old standing.

having occurred, may have been taken up on too slight grounds, rather from the exhausted and apparently exsanguined condition of the patient, than from an accurate estimate of the quantity of blood lost.

[1] "The pain is obstinate and severe, she feels very weak, the countenance is pale, the pulse feeble, perhaps nearly imperceptible; a hemorrhage very generally attends the accident, and often is most profuse. But it is worthy of notice, that frequently complete inversion is not accompanied with hemorrhage, whilst a very partial inversion may be attended with a fatal discharge."—Burns' Midwifery, p. 518.

[2] Midwifery, p. 420.

[3] Ruysch (p. 63) relates a case of inversion, where the practitioner "cut a little way into the tumour with the point of his knife, in order to discover what it was." A mode of examination more original than safe. The patient died of hemorrhage.

[4] Astruc, Diseases of Females, vol. ii. 228. Manning on Female Diseases, p. 285.

[5] "In the fourth degree (complete inversion) which is the most rare, the volume of the tumour is commonly larger than that which the uterus ought to present, even immediately after delivery; it is then, in fact, distended by

If quite *complete*, we may acquire further information from a visual examination. The tumour is of a red colour when the inversion is recent, but gradually becomes of a dull brown.[1]

If *incomplete*, we shall still be able to detect it in the vagina, though if there be *depression* merely, we may not be able to reach it.

The foregoing are the most prominent symptoms of *acute* inversion; those which characterise the *chronic* stage of the disease—whether that stage be the issue of an *acute* attack or the result of a gradual displacement—are, of course, much less formidable.

The patient is subject to occasional irregular hemorrhages (Haighton, Cooper, Nauche, &c.), and to a constant and profuse mucous discharge during the intervals (Gardien; Clarke).

Every month the surface is observed to be covered with red drops, which are, in fact, the menses (Clarke[2]).

The patient complains of pain (Manning, &c.), a sensation of weight in the pelvis, and dragging from the loins.

If the uterus protrude through the external parts, its sensibility will gradually diminish in consequence of the formation of a kind of epithelium upon its surface; and if it be exposed to rude contact, or if acrid secretions be allowed to accumulate upon it, circumscribed inflammation may occur, followed by ulcerations either superficial or profound, and involving some danger to the patient, if not remedied (Clarke).

The constitution of the patient sympathises deeply with so

portions of intestine, together with the fallopian tubes and ovaries. Several real cases of this kind are upon record, the earliest of which is that of Stalpart Vanderwiel, in which the intestines were laid bare after death by an incision of the tumour, still in its situation between the femora. Baudelocque has given a case somewhat similar, and Ruysch has drawn a tumour, the volume of which is six inches in all directions. We learn from Levret, that the sac formed by the inverted uterus and vagina, in the case of a person seventy years of age, was filled with a portion of the rectum, of the bladder, and of the small intestines, and with the fallopian tubes and ovaria."—Boivin and Dugès, Diseases of the Uterus, p. 114.

[1] "The tumour, which may be felt even outwardly, is commonly voluminous, soft, partly reducible, of a red brown and blood colour; moist, in the earlier periods at least, paler at times, and dry after a long while—increasing and diminishing at intervals, when it encloses portions of intestine; the finger introduced between its surface and the parietes of the vagina, discovers a cul de sac at a height which varies, and always presents previously a circular band, projecting upon the base of the tumour to which it belongs." In minor degrees of inversion, "the tumour, less voluminous and concealed, may still be seen by means of the speculum: its surface is found to be smooth and moist, of a deep red colour, and sometimes covered with ecchymoses; when the displacement is recent, even the orifices of the uterine sinuses may be observed exuding blood: but we do not perceive the os uteri any more than in the former case—a circumstance which at once distinguishes inversion from prolapsus of the uterus."—Boivin and Dugès, Diseases of the Uterus, p. 120.

[2] Gardien, tom. 3, p. 325, 326.

[3] Diseases of Females, vol. i. p. 154.

extraordinary an accident. After recovery from the state of exhaustion or nervous depression into which she was at first thrown, the repeated hemorrhages and constant leucorrhœa will render her countenance pale and exsanguined, and subject her to various secondary symptoms, such as syncope, dropsical effusions, hectic, &c. (Newnham.)

Terminations.—The patient may die from exhaustion or from hemorrhage soon after the accident (Heister;[1] Peu;[2] Levret; Giffard; Windsor; Clarke; Denman;[3] Boivin and Dugès), or from the more distant consequences of the repeated hemorrhages (Mauriceau;[4] Haighton;[5] Cooper;[6] Windsor).

Fatal cases are also related by Peu, Portal,[7] Vanderweid and Millot, Chapman,[8] Saviard,[9] Heister,[10] Smellie,[11] and Mauriceau.[12] Boivin and Dugès add, that "death following a very few days after the inversion, may have been occasioned by pains, convulsions and syncope, caused even by the violence which the uterus has undergone."

Distension and inflammation of the bladder may occur, involving considerable danger.[13]

The inverted uterus may be strangulated, and be separated by sloughing or gangrene (Millot) with great danger, although cases are on record where this termination issued favourably (Radford; Capuron; Cooke[14]).

Or, if the patient do not sink from the primary shock, and if no destructive process take place in the tumour, it will, after a while, shrink very much in size, and the patient may suffer comparatively little annoyance. Denman[15] mentions the case of a patient who consulted him for an inverted uterus, twenty years before her death; and Delamotte (*Obs.* 412) another, "in which the inversion was complete thirty years before."[16]

[1] Heister's Surgery, vol. ii. p. 559.

[2] Practique des Accouch. p. 585.

[3] "Uterine hemorrhages following the extension or exclusion of the placenta, though often apparently dangerous, very seldom prove fatal; yet now and then we hear of a patient dying from this cause. May it not be suspected that in such cases, there was an inversion of the uterus, partial or general, which, together with hemorrhage, is always attended with dreadful disturbance of the whole nervous system."—Denman's Midwifery, p. 422.

[4] Traitè des Accouch. vol. ii. p. 294.

[5] MSS. Lectures.

[6] Surg. Dict. art. Inver. of the Uterus.

[7] Obs. 76.

[8] Midwifery, case 29.

[9] Observ. 15 and 36.

[10] Observ. case 369.

[11] Midwifery, vol. v. case 3, p. 444.

[12] Observ. 355, 398, 685.

[13] Burns' Midwifery, p. 519.

[14] Ryan's Journal, March 12, 1836.

[15] Midwifery, p. 421.

[16] Boivin and Dugès, Diseases of the Uterus, p. 115.

Dr. Davis sums up his considerations as follows:—

1. Inversion of the uterus, in a state of great development, may be the result of traction applied to its interior surface, either in consequence of diseased contents, or as a result of too much pulling of the umbilical cord in removing the placenta. Under such circumstances, what is so likely to

Very rarely, the detruded organ has become the seat of malignant disorganisation, either cancer or corroding ulcer.

Diagnosis. The facility of the diagnosis will depend very much upon the extent of the inversion; when incomplete, it is very difficult, and, even when complete, it will often require great care.[1] It is less obscure if the examination be made soon after the accident.

happen as inversion of the uterus, complicated most probably with a profuse discharge of blood? The only treatment which could meet the exigency of a case of that kind, would be the separation of the placenta and immediate reduction of the inverted womb.

2. Under the circumstances now supposed, the death of the subject has often taken place in less than half an hour after the accident. Hence the expediency of admitting no delay in the use of preventive measures.

3. The nature and even the fact of the accident have often not been discovered till after the lapse of many days, weeks, or months, subsequently; and in a smaller proportion of cases, not till after the death of the subject.

4. Some women, who become the subjects of inversion of the womb, not only survive its displacement for many years, but also escape, in a surprising degree, its ordinary consequences.

5. More frequently, this displacement of the womb, when not speedily fatal, is attended by exhausting hemorrhages, both periodical and occasional, as well as by other forms of morbid profluvia.

6. The uterus has been removed by ligature, both with and without the addition of excision below the ligature. From the results of the cases he has himself seen, the author feels quite prepared to recommend strongly the extirpation of the inverted womb in all cases when the health is found to sustain much injury from the previous malposition. The operation is best performed by passing a double ligature through the centre of the inverted neck, and including, within each loop, its own moiety of the entire substance to be strangulated. If previously within the cavity of the pelvis, the inverted womb should be brought down so as to appear beyond the labia. In this situation, it is manifest that a great advantage must be secured, for the easy and effective application of the ligature, as well as for the subsequent excision of the part below the ligature.—Obstetric Medicine, p. 1088.

[1] "It is generally remarked, that *inversio uteri* may be distinguished from polypus of that organ, by the *os uteri not encircling the former tumour in cases of complete inversion;* and by *the impossibility of passing the finger around the neck of the tumour, between it and the os uteri, where the inversion has been only partial;* by *the form of the tumour, polypus* being *broad at its base,* and attached by a *narrow peduncle,* while the *inverted uterus is broader above than below;* by the *insensibility* of the tumour in the one case, and by its extreme sensibility in the other; by the *comparative fixity* of the one tumour, and the *extensive sphere of motion* of the other; by the *rough and fungus surface* of inversio, contrasted with the *smooth and polished* circumference of polypus, and by the previous history of the patient's disease. But it is clear that these diagnostics are liable to a great degree of uncertainty, as appears from the contradictory statements of various authors; from the consideration that *the first and second rules are chiefly applicable to very recent cases of inversion,* or to *those instances in which partial inversion has taken place, but has not carried down the fundus of the uterus in any great degree through the os uteri;*—from the fact, that in the case just related, *the neck of the tumour was certainly smaller than its base,* and *the finger could be freely passed as far as it could reach within the os uteri,* and *around the inverted portion of the uterus;* from the *difficulty of distinguishing obscure sensibility of the tumour itself* from *the sensibility of neighbouring organs, roused into feeling* by the *irritation* of

If *incomplete*, it may be mistaken for *polypus of the uterus;* but it will be distinguished by its bleeding and rough surface;

examining the parts; from the *vagueness* of the diagnostic arising out of the *comparative fixedness* of inversio and polypus, which must depend so entirely on the size of the *body of the tumour*, as well as the broadness of its stem, where it is attached to the uterus; from the *fact* that according to the *length of time* which has elapsed since the inversion, and from other circumstances, its surface will be *rough and fungus-like*, or *smooth and polished;* from the *possibility* that the *same phenomena* may have attended the *history of each form of disease;* and from the fact that *polypi* and *inversion of the uterus* have been *repeatedly* and *interchangeably confounded* one with another."—Newnham's Essay, p. 53.

Although Mr. Newnham has succeeded in showing the uncertainty of each of the diagnostic marks, and has elucidated the great care necessary in forming our conclusions, still he has not shown that a combination of these signs may not be conclusive, nor has he proved that all our efforts will be in vain.

The following references will show that I am not singular in this opinion:

Dr. Baillie says, that "when the inversion is complete, it can be ascertained by an examination of the tumour." Morbid Anatomy, p. 391.

Dr. Haighton relies, for diagnosis, upon the history of the case, and the sensibility of the tumour principally. MSS. Lectures, 1809, quoted by Mr. Newnham, p. 76.

Sir C. M. Clarke says, "An examination being made, a tumour is found either in the vagina, or hanging out of the external parts. Such a tumour may be mistaken for a polypus; but in the latter disease, the os uteri encircles the tumour; in inversion of the uterus, the os uteri forms a part of the tumour itself:—moreover, the inverted uterus is sensible; polypous tumours, on the contrary, are void of feeling."—Diseases of Females, vol. i. p. 153.

Nauche states the possibility of diagnosis from the following symptoms: The absence of the uterus from its natural position, the sensibility of the tumour, its greater diameter being at the superior part, and its irreducibility. Mal. prop. aux Femmes, vol. i. p. 131.

Capuron, after stating that it may be confounded with prolapsus or polypus uteri, goes on to say that the distinction must be sought in the shape and sensibility of the tumour, the presence of the cervix uteri at the upper part of the inversion, and by the neck of the tumour being short, instead of being long and thin as in polypus.—Mal. des Femmes, p. 501.

Siebold lays great stress, as diagnostic marks, upon the time of the occurrence of this displacement; upon the absence of the uterus from the abdomen; the form of the tumour, and of its stalk, &c. &c., at the same time that he admits that great care is sometimes required to distinguish it from polypus. Handbuch zur Erkenntniss und Heilung der Frauenzimmerkrankheiten, vol. iii. p. 361, 362, 363.

Boivin and Dugès (as already quoted) adduce the absence of the os uteri from the lower part of the tumour, as distinguishing inversion from polypus, and then continue, "What distinguishes the case still more, is the height to which the finger may be carried between the tumour and the vagina; the finger thus passes, when the hypogastrium is compressed with the other hand, to the os uteri, which forms a ring at the upper part of the vagina and embracing the root of the tumours, *without adhering to it;* the finger may, in fact, be passed between the ring and the root of the tumour, but it is soon checked by a circular cul de sac."—Diseases of the Uterus, &c. p. 20.

"In distinguishing an inverted uterus from polypus, it may be no small help to recollect, that a genuine polypus is totally insensible, and that a great deal of pain may be felt on constricting the ligature if the disease be

by its sensibility, and by the "*cul de sac*" within the os uteri (Carus.)

2. If *complete*, it will resemble *prolapsus of the uterus*, but may be distinguished by the peculiar period of its occurrence, by the flooding, by the absence of vaginal covering, of the bladder anteriorly, and of the os uteri inferiorly (Clarke; Carus).

3. It may be distinguished from *prolapse of the vagina*, by its hardness, its rough, flocculent, and bleeding surface, and by its unvarying size.

It should be observed, that the value of some of these distinctive marks is limited to a short period after the accident, and to those cases which occur after delivery; such, for instance, as the hemorrhage, the character of the surface, and the size of the tumour, &c.

Treatment.—1. Of *acute* inversion. Our first object is unquestionably to reduce the displaced organ; and if we are on the spot when the accident occurs, it is, in general, not very difficult. It is of the last importance that the reduction be attempted instantly. Every hour increases the difficulty, and the lapse of four or five, according to Denman,[2] may render it impossible. The period when the inversion becomes irreducible, will be found to vary somewhat in different cases, and according to the experience of different practitioners.

There is also a great difference according as the inversion is complete or incomplete. It has been stated to have been reduced spontaneously, when the fundus uteri was merely depressed,[3] and even when the displacement was complete.[4] (Delabarre; Baudelocque.)

But no anticipation of such an occurrence will justify our losing a moment in attempting to re-invert the uterus. The protruded

inversio uteri, and this, more especially, some two or three hours after the constriction. There is too, in some instances, a disposition to vomit."—Blundell on Diseases of Women, p. 143.

[1] Gynæcologie, vol. i. p. 381.

There can be no doubt, that polypi have sometimes been mistaken for inversion of the womb, and, under such impression, have been removed. It is, of course, no wonder that such cases recovered.—Boivin and Dugès, Diseases of the Uterus, p. 129-30.

[2] "The impossibility of replacing it, if not done soon after the accident, has been proved, in several cases to which I have been called, so early as within four hours, and the difficulty will be increased at the expiration of a longer time. Whenever an opinion is asked or assistance required in those cases which may not improperly be called chronic inversions, it is almost of course that the reposition should be attempted; but I have never succeeded in any one instance, though the trials were made with all the force I durst exert, and with whatever skill and ingenuity I possessed; and I remember the same complaint being made by the late Drs. Hunter and Ford, so that the reposition of a uterus which has been long inverted may be concluded to be impossible." Midwifery, p. 420.

Cases of a much longer standing, however, than four hours, have been repeatedly reduced.

[3] Capuron, Mal. des Femmes, p. 504.

[4] Gardien, Traité des Accouchemens, &c. vol. iii. p. 318.

organ should be grasped firmly and passed in through the vaginal orifice, followed by the hand,[1] (previously well oiled), which, when in the vagina, should be closed and formed into a cone, and made to press mainly upon the fundus uteri.[2] (Clarke; Carus.[3]) No effect will be produced upon the inversion until the vagina shall have been put upon the stretch, but then, after some time, it will be found to recede, and on being still further pressed, it suddenly starts from the hand (like a bottle of india rubber when turned inside out), and the organ is restored to its natural condition.

The hand (now in the cavity of the uterus) is not to be withdrawn, but rather expelled by the uterine contraction. This will ensure the patient against a repetition of the accident. We should also assure ourselves, before the removal of the hand, that the restoration has been complete.

Mr. Newnham advises that we should endeavour to "return first that portion of the uterus which was last expelled from the os uteri." It will be found very difficult to attend to this minutely when the hand with the uterus is in the cavity of the pelvis, for want of room; and whilst the tumour is external, the re-inversion does not take place; it is expressly stated by several authorities, that they did not feel the reduction properly commence until the vagina was stretched to its full extent.

In many cases, the placenta remains attached to the womb at the period of inversion, and different opinions have been held as to the propriety of removing it before reducing the displacement. Baudelocque, Gardien, Capuron, Boivin and Dugès,[4] Radford, and

[1] Newnham remarks, "It has been made a question whether the fingers of the operator should not be defended by some soft linen, and mechanical means have been proposed; but it is obvious how improper must be all such contrivances; and it is clear, that the best instrument is the cautious introduction of the hand, well smeared with some fatty substance, and its *gentle* and judicious employment."—Essay on Inversion of the Uterus, p. 15.

[2] Burns directs us to "proceed directly to endeavour to return it (the tumour) within the os uteri, by cautiously grasping the tumour in the hand, and pushing it upwards within the os uteri. This may be facilitated, by pressing up the most prominent part of the fundus, in the direction of the axis of the uterus, so as gradually to undo the inversion or re-invert the protruded womb."—Midwifery, p. 520.

Mr. Radford objects to this, on account of the fundus being, "after the os uteri, the most irritable part of this organ. When the accident has existed a short time, pressure upon this portion induces pain, bearing down, and hemorrhage, but the body may be taken hold of and compressed. If we could press the fundus upward, and thereby dimple it within itself, we should find ourselves opposed by a double inflection, for the body would be grasped by the os uteri, and the fundus would be within the body. It is obvious that our force should be directed so as to act upon the angle of inflection, or where it turns into itself."—Dublin Journal for November, 1837.

[3] Gynæcologie, vol. i. p. 383.

[4] "The following objections may be raised to this practice (allowing the placenta to remain until after the reduction of the inversion):—1st. If the placenta adhere, its detachments will be more difficult after the replacement of the uterus. 2d. This replacement is difficult enough in itself, without

others,[1] recommend its prior removal, but Denman,[2] Clarke,[3] Burns, Carus,[4] Newnham, Blundell, Gooch, &c. as decidedly oppose it. Mr. Newnham remarks, "it has been recommended by several respectable authorities, to remove first the placenta, in order to diminish the bulk of the inverted fundus, and thus facilitate the reduction. But it is surely impossible that this proceeding can be attended with any beneficial consequences, whilst the irritation of the uterus would necessarily tend to bring on those bearing down efforts which would present a material obstacle to its reduction; and would increase the hemorrhage, at a period when every ounce of blood is of infinite importance." "Besides, returning the placenta while it remains attached to the uterus, and its subsequent *judicious* treatment as a simply retained placenta, will have a good effect in bringing on that regular and natural uterine contraction, which is the hope of the practitioner and the safety of the patient."

adding the bulk of the placenta to that of the uterus. 3d. If we proceed with promptitude, we need not apprehend the consequences of hemorrhagy." Boivin and Dugès, Diseases of the Uterus, p. 124.

[1] In his essay on inversion of the uterus, Mr. Radford remarks:—"The dread of hemorrhage is the reason assigned why the placenta should not be first detached, but the writer trusts that the cases he has adduced, and the references he has made, are sufficient evidences to the contrary. In no case has this dreaded effect been induced or even aggravated by a *complete* separation of the placenta. The uterine vessels are as effectually constricted under this accident as when the organ is in its natural situation, if the placenta be entirely detached; and flooding is produced here, in the same manner as in ordinary cases, by a partial separation or disruption. As the greatest disadvantage arises from our failing in our first attempt, it is the more necessary that every impediment should be removed, so that we can proceed with the greatest chance of success. The attached placenta must increase the obstacle, because the fundus cannot be freely and sufficiently compressed. By detaching the placenta, great advantages are gained; the bulk of the part is diminished, the operator is enabled further to reduce the size of the fundus itself by compression; and he has more freedom to judge of the changes he has effected."—Dublin Journal, Nov. 1837.

[2] "The only point of practice which occurs to me as likely to raise any doubt of the conduct we ought to pursue, is, when together with an inverted uterus there is an adhering placenta. It would probably be then right to say, that if the placenta be partly separated, it would be proper to finish the separation before we attempt to replace the uterus; but if the placenta should wholly adhere, it will be better to replace the uterus, before we endeavour to separate the placenta. The ground of this opinion is, that while we are separating the placenta, the cervix of the uterus is speedily contracting, and the difficulty of replacing it, increasing, which is a far greater evil than a retained placenta."—Denman's Midwifery, p. 422.

[3] Diseases of Females, vol. i. p. 152.

[4] "If the inversion be quite recent, and the placenta still adhere to the uterus, it is best to return the uterus before separating the former; but if it be in a great measure detached, which is by far the most frequent occurrence, it is advisable to separate it completely before returning the uterus."—Carus, Lehrbuch der Gynæcologie, vol. ii. p. 423.

Siebold advises that the placenta should not be detached, if the reduction can be accomplished without its removal, but if this be impossible, he advises its separation at once.—Handbuch der Frauenzimmerkrankheiten, vol. iii. p. 375.

It may be doubted, I think, whether the removal of the placenta is attended with so much danger; for, in many instances, it has been found impossible to reduce the uterus in consequence of the great addition to its bulk, which the adhesion of the placenta occasions;[1] and in such cases there is no hesitation about the propriety of removing the placenta, nor have I met with any evil effects recorded as the result of so doing (Siebold[2]).

When the tumour is in danger of strangulation from the circular band of the fibris of the cervix uteri, or in case such band should seriously impede the reduction, it has been recommended to divide it with a bistoury (Millot; Nauche).

Of course, the bladder and rectum should be emptied previous to returning the uterus, unless we are present at the moment the accident occurs; at that time, the operation occupies so short a time, that catheterism may be deferred until afterwards, and constipation for twenty-four hours will rather be an advantage. If the inverted uterus and the neighbouring parts should be much swollen, or if the patient be feverish, it may be necessary to take away some blood and foment the parts, before attempting the reduction (Nauche; Capuron).

But should the disease be of some days standing, are we to look upon the reduction as hopeless? Certainly not. There are cases on record of the attempt having been successful after days and weeks have elapsed, and the condition of the patient is so distressing, that no means, however apparently unlikely, should be left untried. In Loffler's case 6 or 7 hours had elapsed: 17 in Mr. White's case; 24 in Mr. Wynter's; 27 in Mr. Dickenson's; 3 days in Mr. Cawley's; 7 in Mr. Radford's (case 6); 8 in MM. Chopart's and Ané's; 8 in Mr. Ingleby's; 10 or 12 in M. Lauverjat's; 13 in M. Hoin's; and 12 weeks in Dr. Belcombe's.[3]

Plenck advises dilatation of the os uteri before attempting the reduction, and perhaps in some cases this may be possible.

If we succeed in restoring the womb to its natural state and situation, great care will be requisite to avoid a recurrence of the accident, or, what is more likely, a prolapse of the uterus.

The patient should remain longer than usual in the horizontal position, with the head low, the pelvis elevated, and the knees bent.

A dose of opium will be found very useful, and, if there be much exhaustion, it must be repeated, and stimulants in proper quantity be given.

A pessary has been advised, in order to maintain the uterus in its place (Jourdon; Peu), but this will very rarely be necessary (Clarke). When the lochial discharge has entirely ceased, it may be beneficial to use some astringent injections into the vagina once or twice a day, especially if leucorrhœa be present.

[1] See Mr. Brown's case, Annals of Med. vol. ii. p. 277. 1791.
[2] Handbuch der Frauenzimmerkrankheiten, vol. iii. p. 375.
[3] See also a case in the American Journ. of Med. Science, vol. xvi. p. 81.

If the inversion be *irreducible*, we must then consider how far it may be advisable to content ourselves with palliative remedies,[1] such as returning the tumour into the vagina to protect it from injury, and supporting it either by a bandage and compress, as recommended by Doctor Hamilton for prolapsus uteri, or by a pessary.

Should this plan not be practicable, or fail of success, it may then be a question as to the propriety of extirpation.[2] There is abundance of evidence to prove that life may be preserved after the loss of the womb. Rousset relates a case when the uterus was destroyed by gangrene, and the patient recovered, and Rousset, Primrose, Radford, and Cooke, have given cases in which the uterus appears to have sloughed off, without compromising the patient's life.[3]

This being the case, there is every encouragement, within certain limits, to effect that removal by art which nature thus so beneficially accomplished. In this opinion, Sir C. Clarke fully coincides; he observes, "in those cases of inversion of the uterus where the woman has *passed the menstruating age*, when her comfort is destroyed by the disease, and when the profuseness of the discharge threatens her with death, from the debility which it produces; it may be advisable to recommend the performance of an operation, which has been attended with success, viz: the removal of the inverted uterus itself." "How far it may be right to resort to this

[1] "When the uterus cannot be replaced, we should at least return it into the vagina. We must palliate symptoms, apply gentle astringent lotions, keep the patient easy and quiet, attend to the state of the bladder, support the strength, allay irritation by anodynes, and the troublesome bearing down, by a proper pessary." "A spring bandage is also useful. If inflammation come on, as it is usually the case, we prescribe blood-letting, laxatives, &c. By these means the uterus may contract to its natural size, and the woman menstruate as usual, but generally the breadth is delicate. Sometimes the uterus becomes scirrhous, or gangrenous sloughs take place."—Burns' Midwifery, p. 521.

See Clarke on Diseases of Females, vol. i. p. 157.

Dr. Blundell advises the employment of astringent injections for the purpose of arresting "the menorrhagic bleedings," "beginning with the weaker solutions and then gradually increasing their strength, till you have reached the saturated solution, if necessary, and throwing up the injections largely, eight or ten times in the course of the day. The practice is peculiarly important when a woman is about forty-two, because if you can support her for some two or three years, till the monthly uterine action is over, the bleeding will most probably cease, and she will be no longer liable to the disease."—Diseases of Women, p. 143.

[2] "Astringent applications, with attention to cleanliness, good diet, and the occasional use of opiates, may give relief; but if they do not, we are warranted to prefer extirpation of the uterus to certain death. This operation has been repeatedly successful, and is performed by applying a ligature *high* up, and cutting off the tumour below.—Burns' Midwifery, p. 521.

See his essay in Dublin Journal for September, 1837, case 3rd. Dr. J. C. Clarke has recently published his case in a pamphlet. The inverted uterus with one ovary separated shortly after delivery. The lacteal secretion was suddenly suppressed, and the sexual propensities ceased.

operation *during the menstruating part* of a woman's life, the author has no means of judging."[1]

The operation, however, has been performed during the "menstruating part of a woman's life," with complete success.

We may therefore conclude, that the operation is perfectly justifiable, provided, 1st, that the patient is in a fit state of health for an operation; and 2ndly, that the uterus be not affected with scirrhus or cancer.

The operation has been successfully performed[2] by Ambrose, Paré, Petit, Carpi, Sclevogt, Vater, Laumonier, Bouchet, Boudol, Dessault, Hunter of Dumbarton, Chevalier, Johnson, Newnham,[3]

[1] Clarke, vol. i. p. 149, 150.

[2] For more detailed reference, the reader is referred to Newnham's Essay, p. 104, et seq.; Ed. Med. Comment. vol. xvi.; Ed. Annals, vol. ii.; Clarke on Diseases of Females, vol. i. p. 161; Davis's Obstetric Medicine.

[3] Mr. Newnham's case is so instructive, that an abstract of it may be given:—Mrs. Glascock was delivered on the 21st of January, 1817, of her first child, after a natural labour. The funis was remarkably short, the placenta adherent, and much hemorrhage succeeded its removal; retention of urine supervened, requiring the use of the catheter. The patient consulted Mr. Newnham early in April, "on account of a *constant discharge* from the vagina of a mucous character, accompanied with frequent hemorrhage." "On those days when she had the *least* discharge, it was still very considerable, and required seven or eight napkins in every 24 hours, in order to keep her comfortable; but the returns of active hemorrhage were increasingly frequent, and were induced almost by the slightest exertion." Her constitution was seriously injured, and her appearance was that of a person suffering from large hemorrhages. "On examination, I discovered, in the vagina, a tumour of considerable size, somewhat of a pyriform shape, *larger at its base than at its superior extremity, but not attached by a very narrow neck—surrounded at its apex by the os uteri, between which and the tumour, the finger could be readily passed without discovering any immediate connection, as far as I could ascertain nearly insensible; and which had never occasioned pain.*" After a consultation with Mr. Oke, of Farnham, it was decided to be inversion of the uterus, and it was resolved that its removal by ligature should be attempted on Sunday morning, April 13, 1837. The ligature, of very strong silk, was applied "as high as possible, upon the neck of the tumour, taking care to avoid including any part of the os uteri, by carrying the silk within the orifice." A full dose of opium was given, and the patient complained only of a little uneasiness on the sides of the hypogastric region.

On the 14th and 15th, the ligature was tightened, which gave considerable pain, and in consequence it had to be loosened. The opiate was repeated, and some aperient medicine ordered. On the 17th, there was much pain and some tenderness on the left side of the hypogastric region, with a quick pulse, which induced Mr. N. to remove the canula and leave the ligature quite loose.

On the 18th, as all unpleasant symptoms had disappeared, the ligature was tightened, and an opiate enema given. From this day till the 6th of May, the ligature was daily tightened, the pain continued until the 30th of April, after which it gradually diminished. On the 26th of April and 2nd of May, the patient became excessively irritable, but this subsided. The discharge was fetid after the 24th, and in considerable quantity after the 29th. "When the ligature was tightened, this evening (May 6th), the

Clarke of Dublin, Windsor,[1] Davis, Hull, Blundell,[2] Hamilton, Moss,[3] Lasserre,[4] &c. &c.

Other cases less fortunate are on record.

The operation consists in applying a ligature of silk, whip cord, fishing line, or silver wire, around the tumour at its highest part, and gradually tightening it, as the patient may be able to bear it, until the tumour is entirely separated. Or, a double ligature may be passed through the centre of the neck of the tumour, and each half included in a separate ligature (Davis).

Or, lastly, we may prefer, after tightening the ligature to a certain degree, to remove the tumour immediately by cutting below the ligature (Burns; Windsor). Before doing this, it will be necessary to satisfy ourselves of the adequacy of the ligature to restrain any hemorrhage.

The symptoms which arise after the application of the ligature, are just such as we might expect from the strangulation of so important a viscus. The patient suffers from nausea, vomiting, and pain, which gradually diminish in the more favourable cases, but which are the prelude to peritonitis in the fatal ones. When these symptoms are violent, it will be necessary to loosen the ligature, and wait some hours before again tightening it. A dose of opium should also be given, and the bowels kept free by enemata. The strength of the patient should be maintained by a nutritious, though not stimulating, diet.

If the inversion be caused by or complicated with polypus, it may be necessary to remove both (Jourdan[5]), and the polypus should be excised before applying the ligature to the uterus.

It was originally intended that a chapter on Rupture of the Uterus should follow those which treat of the displacements of that organ. Upon consideration, however, it has appeared to me the best plan to defer this chapter until we come to speak of the diseases of the puerperal state; for, although the womb may be ruptured quite independently of pregnancy and labour, yet it undoubtedly occurs much more frequently in connection with parturition than otherwise.

tumour became detached, and I found, to my no small satisfaction, that it was, as I believed, an inverted uterus."—Essay, p. 31, et seq.

[1] Medico-Chir. Trans. vol. x. p. 358.

The history of the case resembles Mr. Newnham's—the inverted uterus was separated on the 11th day, partly by ligature and partly by excision. The patient suffered a good deal of pain, with considerable febrile action. Opium and aperient enemata afforded relief.

[2] Diseases of Women, p. 144. See also the section on extirpation of the uterus (p. 255), in the present work.

[3] British and Foreign Medical Review, April, 1837, p. 561.

[4] Encyclo. des Sciences Med. vol. xxxvi. p. 179. In this case, the menses did not return. "Mais le femme est restée sensible aux voluptés conjugales."

[5] Dict. de Med. vol. xxiii. p. 290.

SECTION III.—DISEASES OF THE FALLOPIAN TUBES.

CHAPTER I.

The Fallopian tubes are obnoxious to much the same variety of morbid changes as the uterus or ovaries.[1] From their proximity to the latter, and their continuity of tissue with the former, they

[1] "Excepting the inflammation of the fallopian tubes, which may be known by symptoms that are peculiar to it, the other diseases of them are not evinced by any sign in the beginning, and afterwards the signs by which they are made known, are so ambiguous that scarcely any thing can be concluded from them. It happens, therefore, constantly, that there are found, in the opening of dead bodies, illnesses and disorders of which there was not the least suspicion."—Astruc.

The following is Astruc's summary of the diseased conditions of the fallopian tubes:—

1. They may be inflamed, and consequently they are liable to abscesses and gangrene.
2. They may become scirrhous, either in their whole length, or otherwise at one of their ends.
3. They may be covered with hydatids, as well on their exterior surface as on the interior: and some of these hydatids, by growing large, may form an hydatic dropsy.
4. They may, besides, become dropsical by a collection of serum, which fills their cavity and dilates it beyond measure, as appears by several accounts (Bianehi; Munnicks).
5. It may happen that the fecundated egg may stop in them and fix itself to them; and that the fœtus which is contained in it may grow till it lacerates the tube and kills the mother.
6. Encysted tumours may be formed in the tubes, as in other parts: and there may likewise be formed a kind of abscesses which may have great affinity with them when the fecundated egg is retained in the tube, perishes there, and is converted into a thick corrupted matter: as it happens also in the *ovaria* in parallel cases.
7. It has also been often observed that the fringed edge of the *corpus fimbriatum* of one of the tubes was fixed to the *ovarium;* with which, by that means, the tube cohered, and was rendered incapable of receiving the fecundated egg that fell from the *ovaria*, at some place where it was not brought close to them.
8. Lastly, it sometimes happens that the opening of the tubes into the *uterus* is so exactly closed as not to be capable of admitting a hog's bristle into it, and that often there does not remain the least appearance of it. The same thing happens with respect to the *corpus fimbriatum*, but more rarely. This state is not followed by any disorder of the functions, when it happens only at one tube: but if both are affected, it causes an incurable barrenness. —Diseases of Women, vol. ii. p. 239.

The fallopian tubes are frequently found to have suffered from inflammation, and besides those morbid appearances resulting therefrom, which have been enumerated as occurring to the peritoneum, the following have also been noticed:—

1. A thickened, enlarged, and somewhat indurated state, with the fimbriæ destroyed, and the tube terminated by a "cul de sac."
2. A considerable enlargement of the tube, which has become tortuous

participate in all the more acute disorders of each. There is no doubt that they may, and often are, diseased independently, but it is scarcely recognisable during life;[1] as, from their position, any symptoms to which they give rise will indubitably be attributed to an affection of their more important neighbours. When they are affected in common with these organs, their symptoms form a small part of the aggregate, and are so masked by the greater disturbance, that the morbid changes going on in them are only discovered after death. Very few of these disorders happen before the occurrence of utero-gestation.

In consequence of this obscurity in diagnosis, little more can be attempted than to give a catalogue of the diseases, with such practical observations as may be necessary. It is worthy of remark, that the appropriate treatment of this class of disorders does not depend upon our distinguishing them from affections of the uterus or ovaries. In each, the remedies are nearly the same.

1. The fallopian tubes may be attacked by *acute inflammation*, generally by an extension of the disease from the uterus or peritoneum, in one or other variety of puerperal, but sometimes as an idiopathic affection,[2] in consequence of suppressed catamenia or lochia (Davis).

and fluctuating when pressed, and which contains a quantity of serous fluid. In some cases it is an albuminous or puriform fluid, and the membranous sides are, in these instances, very much thickened; the internal surface covered with a tenacious or floccy albuminous substance, the removal of which exposes an inflamed and somewhat softened surface.

3. The fimbriæ preternaturally florid, and loaded with vessels filled with blood.

4. A total destruction of the fimbriæ, without any other morbid appearance.—Hooper's Morbid Anat. of the Human Uterus, p. 3.

[1] After speaking of the leading affections of these tubes, Dr. R. Lee remarks, "All these affections produce barrenness, but there are no symptoms by which we can positively know their existence during life."—Cycl. of pract. Med. vol. iv. p. 577.

[2] The following case from Boivin and Dugès is very instructive:—

"Mad'lle. B. aged twenty-three years of age, had been 'regular' from her fourteenth to her twentieth year, when she was attacked several times with inflammation of the lower part of the abdomen, which was removed by leeches. Sharp and frequent pains continued, however, in the hips, on each side, particularly in the region of the sacrum; there was also habitual constipation. This state of things was succeeded by irritation of the thorax, accompanied with heat, hoarseness, and frequent cough: the catamenia became less abundant and irregular in their return; the affection proceeded very rapidly, and the patient died in six months."

Post mortem examinatin.—There were adhesions between the uterus and rectum, and also tubercles in the uterine parietes. "The right fallopian tube was of a bright red colour, obliterated at its two extremities, the fimbriæ of its pavilion entirely effaced; it contained a viscid, reddish, and puriform fluid. The right ovarium was adherent to the tube by newly formed membranes; it was small, soft, opening in different directions, and presented a fleshy tissue, of a bright red colour, uniform, and without the slightest vesicles. On the same side appeared, in the form of the corolla of a convolvulus, the remains of a red solid cyst, which opened into the cavity of the abdomen, and was probably of the size of a walnut. The left

The *symptoms* are deep seated; throbbing pain in the hypogastrium or iliac region, extending to the groins and down the thighs. There is a sense of heat in the part, with increasing abdominal tenderness. The tongue is dry, the pulse is quick and hard, and there is some thirst. There is said to be no swelling, and this is the principal ground of *diagnosis* from ovarian disease.

A *post mortem* examination[1] will exhibit one or both of the tubes swollen, red, and vascular, infiltrated more or less with serum, lymph, or pus. The fimbriæ especially are the seat of these changes, and become of a deep red colour, and softened.

The lining membrane sometimes shows marks of inflammation. "A purulent, viscous, whitish, and partly mucous, sometimes blackish or putrid matter (Boër), is occasionally found in small quantities in the interior of the tubes and, it has been said, within their veins.[2] Purulent deposits may be seated in their parietes, especially in the sub-peritoneal cellular tissue, which is sometimes infiltrated with serous matter, like the fimbriæ of the pavilion. Albuminous flakes have frequently been found adhering to their surface."[3] "The disease may prove fatal on the fourth or fifth day, terminating by resolution from the 8th to the 11th, or by suppuration from the 12th to the 14th."[4]

The *indications* of *treatment* are just the same as in metritis. We must attack the inflammation by general and local blood-letting. In some cases the repeated application of leeches may be sufficient.

After this, counter-irritation may be tried, at the same time that we may prescribe calomel, alone or with opium, very liberally.

2. *Chronic inflammation* of the fallopian tubes. We cannot doubt the occurrence of this disorder if we examine carefully the tubes in elderly persons; for we shall often discover changes which could result from nothing else. In addition, it is recognisable

ovarium, twice as large as the other, was covered by the right fallopian tube, which was as large as a hen's egg, and of a deep red colour. These organs adhered together by a close and solid membrane. The fallopian tube, when dissected, presented a cyst without orifice, containing a spoonful of yellow, inodorous fluid, of less consistency than that of the opposite side. The parietes of the cyst, flattened, elastic, of a red and fibrous tissue, presented interiorly a cellular reddish membrane, which was easily removed by scraping the surface."—Diseases of the Uterus, &c. p. 504.

[1] Cruveilhier, Anat. Path. livr. 13, pl. 3.

[2] Danyau, Thèse sur la metrite gangreneuse, p. 11.

[3] Boivin and Dugès, Diseases of the Uterus, &c. p. 503.

"After parturition, when inflammation attacks the peritoneum, the fallopian tubes, in most cases, become red, vascular, and partially or completely embedded in pus or lymph. Their ovarian extremities not unfrequently become softened, of a deep red colour, and deposits of pus in a diffused or circumscribed form, take place within their cavities, or in their sub-peritoneal tissues. Their lining membrane also becomes inflamed, and the canals throughout their whole extent filled with pus."—See Cyclop. of Pract. Med. vol. iv. p. 377.

[4] Nauché, Mal. prop. aux Femmes, vol. i. p. 371.

during life, rather by its consequences than by its *symptoms*, which are very obscure, amounting, in many cases, to no more than a dull pain in the iliac region, with intervals of perfect ease.

The internal membrane alone, may be the seat of chronic inflammation, and to this source Boivin and Dugès[1] are disposed to attribute the discharge in many cases of supposed leucorrhœa, whether uterine or vaginal.

Certain deposits are also traced to the same cause. "It is undoubtedly to affections of this kind that we ought to refer the *melanotic* and *tuberculous* diseases,—or the deposits of these, sometimes observed, either in the tissue itself of the fallopian tube, or at its anterior surface."[2]

Both acute and chronic inflammation may issue in the formation of pus, and the abscess may open into the peritoneum, or escape externally. M. Andral[3] has related a case of the latter kind. "The patient had been affected with constipation, then vomitings, and pains, at first in the right side, and afterwards in the left, of the abdomen, and in the right thigh. A tumour was gradually formed in the left side, accompanied with fever, emaciation, purulent diarrhœa, and death. On examination, there were traces of peritonitis and of enteritis. The left fallopian tube, considerably dilated by the pus, though still tortuous in part, and therefore distinguishable, opened into the rectum by an orifice capable of admitting only a quill; the corresponding ovarium, as large as a nut, also contained pus, without communication with that of the tube. The right tube was also enlarged, and contained some purulent matter; the ovarium, situated entirely within the pelvis, was of the size of a large hen's egg, and also filled with greenish, viscid pus; the uterus was healthy."[4]

This case illustrates the symptoms, as well as the termination, of an inflammatory attack.[5]

The exact *diagnosis* is very difficult. We must be content with the conviction that some of the pelvic viscera are affected, and direct our *treatment* to the relief of the prominent symptoms. Of this treatment, counter-irritation, with calomel and opium, will form the principal feature prior to the formation of matter.

Pus in the fallopian tubes may, however, be derived from another source, "as in the case recorded by Laumonier,[6] inasmuch as the ovarium was partly excavated and concurred with the fallopian tube, in the formation of an enormous abscess." Similar cases have occurred to Boivin and Dugès.

3. There is another consequence of inflammation, either acute or chronic, which has not yet been noticed, viz: the *obliteration of the*

[1] Diseases of the Uterus, &c. p. 502.
[2] Ibid. p. 502.
[3] Anatomie-Pathologique, tom. 2, p. 700.
[4] Boivin and Dugès, Diseases of the Uterus, &c. p. 502.
[5] See also Davis, Obstetric Med. vol. i. p. 760.
[6] Mem. de la Societé roy. de Med. 1782, p. 299.

canal through the fallopian tubes. This may occur at the uterine or ovarian extremity; when the latter is the case, the fimbriæ are found adhering to the ovarium.[1] "According to M. Andral, obliteration may occur about the middle; even the entire tube may lose its cavity: this, however, is not a very common case, and the obliteration is generally only partial; and then there is an accumulation in the remaining cavity, of sero-mucous matter, which may become more or less abundant."[2] (Davis.)

The obliteration of either or both extremities, may give rise to accumulations of fluid, derived either from the uterus, from the ovaries, or from the lining membrane.[3]

We meet with examples of the first occasionally, when the neck of the uterus is imperforate; the catamenial discharge accumu-

[1] "Their fimbriated extremities are frequently, in consequence of acute or chronic inflammation, firmly united to the ovaria, posterior part of the uterus, omentum, and other contiguous parts. The structure of the fimbriæ is often completely destroyed, and the tubes terminate in a 'cul de sac.' The canals of the tubes are also sometimes obstructed, and sterility is the result. The obstruction may be partial or complete. One of the most frequent morbid appearances which the writer has observed in the bodies of young subjects after death, is adhesion of the fallopian tubes to the ovaria, by short, firm, adventitious membranes, or by long, slender, transparent filaments."—Dr. Robert Lee, Cyclop. of Pract. Med. vol. iv. p. 377.

"When the fimbriæ of the fallopian tubes are destroyed, the opening from the tube into the cavity of the abdomen is generally obliterated, the tube is enlarged towards the abdominal extremity, and the canal terminates in a 'cul de sac.' The tubes, in these instances, are found increased in size, and are mostly tortuous, or of a pyriform shape; their sides are thicker, and traces of pre-existing inflammation are mostly detected. This is a diseased state of frequent occurrence."—Hooper's Morbid Anatomy of the Human Uterus, p. 34.

[2] Boivin and Dugès, Diseases of the Uterus, &c. p. 500.

[3] "Proper dropsy of these tissues, consists in deposits of a watery fluid; and of these there are at least three varieties; viz: 1. Those in which the fluid effused is contained within hydatids, attached but not adherent to, nor forming essentially part of, the tubes themselves. 2. Those in which it is contained intermediately between the peritoneal tumour and the tube; and 3. Those in which it is found effused into the cavity of the tube, and there retained by both its extremities being hermetically closed by disease."—Davis, Obstetric Med. vol. ii. p. 761.

"The fallopian tube has been sometimes, indeed, the seat and source of a sanguineous exudation without apparent rupture; this has been principally observed in the puerperal state, in abortion, or connected with metro-peritonitis; the following is a case in point: a woman, after a recent abortion at an early period, was affected with inflammation of the uterus and of the peritoneum, of which she died: the ovarian extremity of the left fallopian tube was of the size of a small hen's egg, adhering to the ovarium, which it almost surrounded; it was red, very vascular, and contained some fluid blood; the parietes of this sac were half a line in thickness; the left fallopian tube was obliterated at its pavilion, which was as large as the finger, without fimbriæ, and adhering to the ovarium by some cellular adhesion; some fluid blood was found within it; the remains of a small lacerated serous cyst were suspended from the ovarium on the same side."—Boivin and Dugès, p. 500.

lating, distends first the uterus, then the fallopian tubes, and ends by rupturing them.[1]

In the second case, a communication is opened between the adherent extremity and the dropsical cyst of the ovary.

In the latter case the appearance of the tube varies;[2] "sometimes it is thickened, elongated, and flexuous, gradually enlarging as it approaches the ovarium, though still quite distinguishable. Sometimes it enlarges more rapidly in the form of a cucurbite, of a pear, or of a sphere, and may then acquire enormous dimensions. De Haen speaks of a hypertrophied fallopian tube, which weighed alone seven pounds, and contained 23 pints of fluid:[3] cases have been quoted in which even a hundred and twelve pints have been found in these organs; but the fallopian tube, the ovarium, and the broad ligaments, were all blended in the cyst (Blanchard). The rationale of these accumulations of fluid, and of dropsy of the ovarium, is the same; their symptoms are also similar; they are sometimes equally relieved by puncture; sometimes this operation has been followed by fatal consequences (De Haen), and sometimes it has been entirely useless, owing to the viscous state of the matter preventing its flow along the canula." (De Haen.[4])

Dr. Hooper[5] has given the name of "hygroma" to this fluid collection, and he observes:—

"I have never seen more than seven fluid ounces in one tube; from one to two ounces is the more usual quantity. When a hygromatous tumour is formed in these tubes, the fimbriæ are generally destroyed, and the abdominal openings obliterated. The sides of the tubes are distended into complete bags, which have a long, tortuous, or pyriform shape, being always much the largest at the loose extremity. The tube of both sides is mostly in the same

[1] De Haen, Rat. Med. tom. 3, p. 32.

[2] "The tubes are also, though much more rarely, the seat of dropsy. The signs of this disease are the same as in dropsy of the ovary, from which it is not distinguishable during life. On examination, after death, the tube which is the seat of the dropsy is found more or less dilated; it presents the appearance of a tortuous tumour, something resembling the large intestines. The cavity is filled with a serous fluid, slightly coagulable, and of an albuminous character. This cavity is generally divided into cells, by membraneous septa."—Nauche, Mal. prop. aux Femmes, vol. i. p. 181.

"Sometimes the fallopian tube is suddenly enlarged by fluid at the ovarian extremity, when it resembles a horn, or has a pyriform or spherical shape, and it may there acquire enormous dimensions. De Haen relates a case in which the fallopian tube weighed seven pounds, and the cavity contained twenty-three pounds of fluid. In other cases, the quantity has been still greater."—Lee, Cyclop. of Pract. Med. vol. iv. p. 378.

[3] Rat. Med. tom. 3, p. 313. See also Monro on Dropsies.

[4] Boivin and Duges, Diseases of the Uterus, p. 501.

Astruc speaks rather favourably of tapping the dropsical tube, and quotes a case of J. H. Bretchfield's, related by Bartholinus (Act. Med. Hafnien. p. 194), in which it was successfully performed. Diseases of Women, vol. ii. p. 244.

[5] Morbid Anat. of the Human Uterus, p. 19.

state of disease, and there are generally traces of pre-existing inflammation, as thickened portions here and there, and many adventitious membranes and adhesions to neighbouring parts."

In some cases where the uterine extremity becomes pervious, the fluid is more or less completely discharged through the uterus and vagina. Frank[1] mentions a case in which a pint of fluid was discharged *per diem*. After the death of the patient, thirty-one pints of aqueous and gelatinous matter were found in the left fallopian tube. The cause of the disease was a fall, in which the hypogastrium was hurt.

Obliteration of the tube in any part will prevent subsequent conception, rendering the woman sterile; and if the calibre of the tube be diminished or obliterated after conception, or if the action of the tube be imperfect, then the ovum may be arrested in its progress, towards the uterus, and an extra-uterine (tubal) fœtation will result. Under these circumstances, the fœtus may increase in size for some time, until, having stretched the parietes of the tube to their utmost extent, they give way and the fœtus is precipitated into the abdomen. In most cases, this gives rise to fatal peritonitis; in a few others the serous membrane accommodates itself to the presence of the fœtus, and the patient may carry it thus for many years.

Astruc[2] recommends the operation of Cæsarian section in such cases, if we are sure of their nature.

4. It is very rare indeed that *fibrous tumours* form in the substance of the fallopian tube: they are, however, sometimes met with. Dr. Baillie remarks,[3] "I have seen a hard, round tumour, growing from the outer surface of one of the fallopian tubes. This, when cut into, exhibited precisely the same appearance of structure as the tubercle which grows from the surface of the uterus, consisting of a hard white substance, intersected by strong membraneous septa. This, however, I believe to be a very rare appearance of disease."

And Dr. Hooper observes,[4]—"A more uncommon situation for this tumour is the cavity of the fallopian tube. It is occasionally seen, very small, deposited in the cellular tissue under the peritoneum of the tubes; and I once found it in the cavity or canal itself, about the size of an olive; the fimbriæ were destroyed, and the tube terminated in a 'cul de sac.'"

5. The fallopian tubes may be attacked by *malignant disease*. Capuron,[5] Nauche,[6] and others, treat of cancer of this part; and Doctor Lee observes,[7] "The fallopian tubes are sometimes affected

[1] De cur. ret. lib. 6, part 1, p. 310.
[2] Diseases of Women, vol. ii. p. 245.
[3] Morbid Anatomy, p. 360.
[4] Morbid Anatomy of the Human Uterus, p. 12.
[5] Med. des Femmes, p. 164.
[6] Mal. prop. aux Femmes, vol. i. p. 623.
[7] Cyclopedia of Pract. Med. vol. iv. p. 379.

with cancerous or malignant disease. This may commence in the tubes themselves, or it may extend to them from the ovaria, or other parts of the uterine system."

If the disease have extended to, or originated in the womb, of course the *symptoms* arising from the affection of the fallopian tubes will be merged in those of the uterine disorder. If not, some light may be thrown upon the *diagnosis* by a careful vaginal examination.

6. *Displacements.* As we have seen already,[1] the fallopian tubes are displaced whenever the position of the uterus is disturbed. In prolapsus uteri, they lie in the "cul de sac" formed by the inverted vagina, along with the ovaries. In inversion of the womb, they are drawn into the newly formed cavity lined by the peritoneum of the fundus.

When the ovary is much enlarged, if the fimbriated extremity of the tube be adherent to it, the situation of the tube itself will be altered.

In those very rare affections, Herniæ of the uterus and ovaries,[2] the fallopian tubes, of course, participate in the displacement.

7. *Ruptures.* This accident may occur from over distension by the catamenia,[3] by serum, or by pus. It may occur independently both of these diseased states and of pregnancy. "There is a case on record, of rupture of this organ independently of pregnancy,[4] attributed to a violent effort, quickly followed by an effusion into the abdomen, and death." Or the rupture may be the immediate consequence of ulceration.

Rupture of the tube, in consequence of the development of the fœtus in its canal, has already been noticed. It generally takes place about the third or fourth month of pregnancy (Lee). When it occurs, "a violent pain is suddenly experienced by the woman in the region of the uterus; this is followed by faintness, coldness of the extremities, and other symptoms of internal hemorrhage, and death usually takes place in a few hours. On opening the body, a quantity of blood is found in the sac of the peritoneum, and the tube which contained the ovum is found lacerated or laid open, by inflammation and sloughing. When ruptured, it does not possess a power like the uterus to close the exposed vessels, after the separation of the placenta, and the blood is poured out from the laceration, until the woman perishes."[5]

The accident is almost always fatal. If there be time for remedies, of course the most active antiphlogistic treatment is the most appropriate; such, in fact, as would be prescribed for peritonitis, under ordinary circumstances.

[1] See pages 212, 239, &c.

[2] See Nauche, Mal. prop. aux Femmes, vol. i. p. 123, 127; Boivin and Dugès, Diseases of the Uterus, &c. chapter 5; Ruysch, Obs. 16.

[3] De Haen, Rat. Med. tom. iii. p. 32.

[4] Nouvelle Biblioth. Med. 1823, tom. i. p. 263.

[5] Lee, Cyclop. of Pract. Med. vol. iv. p. 379.

SECTION IV.—DISEASES OF THE OVARIES.

Notwithstanding the peculiarities of their structure, and the difference between them and the uterus, the ovaries seem to be obnoxious to the same attacks, and to undergo similar morbid changes.

They may suffer from inflammation, acute or chronic; and from its consequences, fluid or solid deposits; from malignant disease; from displacement; and from rupture.

It is true, that the diseases of the ovary are less frequent than those of the uterus, and one reason for this is, that their physiological changes are of a character less liable to be converted into disordered action—they are not exposed to irritation from acrid discharges,—and far less to mechanical injury, especially to that which results from excessive sensuality.

It is not intended, therefore, to enter into minute detail upon the rarer forms of ovarian disease.

CHAPTER I.

INFLAMMATION OF THE OVARIES—OVARITIS—OOPHORITIS.

Inflammation of one or both ovaria does occur sometimes, as an idiopathic lesion, and unconnected with pregnancy (Nauche), but it is very rare; it is most generally complicated with the peritoneal or uterine inflammation, succeeding to abortion or delivery.

"Inflammation of these organs has also been known to exist independently of any similar condition of the uterus itself. M. Portal asserts, that he had often met with patients of this class, who had experienced all the pathognomonic symptoms of inflammation of the uterus, but who, after the lapse of some time, and subsequently to their apparent recovery, became the subjects of fulness, and in fact of very great intumescence in one or both iliac regions, for which they took various remedies without advantage. On inspecting the bodies of such persons after death, he found the uterus perfectly healthy, whilst the ovary of one side, and in other cases of both sides, together with the ligament or ligaments, round and broad, of either, or of both sides, presented the appearance of great engorgement."[1]

Generally speaking, the entire substance of the ovary is involved in the morbid action, but in some few cases it has been supposed to have affected only the graafian vesicles.[2] The phenomena which

[1] Davis, Obstetric Med. vol. ii. p. 762.

[2] On this subject Dr. Seymour remarks, "Whether the graafian vesicles are ever affected by inflammation, except when in common with the

result in this latter case are not distinguishable during the life of the patient, and, consequently, this partial affection may be passed over without more lengthened detail.

It has been stated that young women of a sanguine temperament and vivid passions are the most obnoxious to this affection (Nauche). I should doubt the general applicability of this remark, at least to such cases as occur during an epidemic of puerperal fever. There are two epochs at which it frequently occurs, viz. just previous to, during, and immediately after the appearance of the menses, and shortly after abortion or labour (Löwenhardt).

There is an *acute* and a *chronic* form of the disease; the latter is always a sequence of the former, and differs from it chiefly in the minor intensity of the symptoms.

Causes. When the disease occurs in puerperal women, it is often merely an extension of inflammation from the uterus or broad ligaments. Certain epidemics of puerperal fever also appear to be characterised by the prevalence of this lesion.[1]

It occasionally follows a difficult or tedious labour.

It may arise, however, altogether independent of gestation, and it has been referred, in some cases, to a blow received in the iliac region, to cold, or to irritation from some foreign body, (as hair, teeth, &c.) in the ovary itself (Seymour).

substance of the ovarium, it would be impossible to determine, except by long continued and very accurate examination after death. We meet, indeed, in authors, with accounts of the ovarium, which has been inflamed, having purulent matter of a healthy character contained in cysts; but no allusion is made to whether this arises from inflammation or suppuration of the vesicles, or is a circumscribed abscess in the cellular structure. The coats of the vesicle, however, in advanced life undergo remarkable thickening, instead of containing fluid, are filled with a thick matter, of a red colour, from the presence of vessels, sometimes nearly solid, at others of a thinner consistence. This change exhibits, on a small scale, some of those hard tumours which are sometimes found in the parietes of an ovarian cyst. Is it not possible that these may be some of the superficial vesicles, having undergone the change alluded to, and magnified by disease?" "The fluid which is contained in the graafian vesicles is liable to disease, it is often red and even black, from the admixture of blood; and it appears to me that it may become altered from imperfect foundation." Dr. Seymour quotes a case in support of this latter opinion.—Illustrations of Diseases of the Ovaria, p. 41, et seq.

[1] "The frequency with which this affection is complicated with metro-peritonitis in the puerperal state, varies considerably in the different epidemics: of 686 cases of metro-peritonitis which we witnessed in two years, (1819, 20), 37 presented inflammation of the ovarium; there were doubtless many more of the same kind, and several escaped our detection, owing to the obscurity of the diagnosis; for, of this number, 35 were ascertained after death, and only 2 during life. In such cases, inflammation of the ovarium can only be suspected from the existence of pain extending towards the iliac fossæ, to the loins and femora, and from tenderness felt near these fossæ; and, perhaps, from rather more tumefaction and hardness in the iliac regions than is found in simple metro-peritonitis."—Boivin and Dugès, Diseases of the Uterus, &c. p. 488.

According to Dr. Martin Solon, it may follow suddenly suppressed menstruation.[1]

Symptoms. 1. *Of acute ovaritis.* When complicated with inflammation of the uterus or its appendages, the symptoms thence arising, will, in some degree, mask those dependent on the ovarian affection. But, in all cases, the patient suffers from deep seated, severe pain in the pelvic cavity; and when the disease is limited to the organ itself, the situation of this pain, which is accompanied with a sensation of burning, is very well marked.[2]

It is not constant if the patient continue quiet, but if she rise, it is greatly aggravated. If the inflammation spread to the peritoneum, the pain changes its character, and becomes very acute.[3] An aching sensation extends to the groins and thighs, with great weariness. The evacuation of urine and fæces is performed with pain and difficulty.

If we examine the lower part of the abdomen, on either side or

[1] Nouv. Dict. de Med. et de Chir. prat. art. Ovarite.

[2] "The inflammation of the *ovaria* is always attended by heat and pain in the portion of the belly, where they are placed: but these symptoms, as well as the fever which follows, are almost always attributed to the inflammation of the uterus, which is joined to that of the ovaria. The abscesses of the *ovaria* are too small in the beginning to make themselves perceived. And when they become larger, they produce, in the diseased side, tension and a dull pain; and cause sometimes a slight disposition to fever, as all other internal abscesses."—Astruc, Diseases of Women, vol. ii. p. 238.

[3] "As long as the inflammation is confined to the ovarium itself, the seat of the disease can only be shown by the pain, since there is no functional disturbance to mark its presence. Immediately over the symphysis pubis of the affected side (both ovaries are seldom inflamed at once), between the groin and the uterus, the abdomen is painful and somewhat tense; at times it is distinctly swollen, and hotter than natural. The pain is seldom violent, rather dull, but becomes sharper and darting as soon as the peritoneum is involved; the part is painful on pressure, and on suddenly assuming the erect posture; and, as long as the inflammation does not spread, remains confined to the affected spot.

"Usually, however, the inflammatory process rapidly extends at an early period to the peritoneum, especially when under circumstances which predispose this membrane to inflammation, viz. the puerperal state; and besides the darting pain above-mentioned, produces affections either of the bladder or rectum. In the former case, patients complain of frequent desire to pass water, and scalding even to a painful degree when evacuating the bladder, so as to be easily mistaken for inflammation of its mucous lining; the neighbourhood of the bladder is felt tense, and is very tender on pressure. The urine also is mostly high coloured, and is passed in the usual quantity in spite of frequent interruptions. The function of the rectum is but little impeded. On the other hand, when the irritation has spread to the posterior position of the peritoneum, the characters of the disease are very different; the bladder now is less affected than the rectum. In this case, the patient has a sensation of painful pressure in the cavity of the pelvis, amounting to bearing down; the hypogastric region is not so tense or hot, and less sensitive to external pressure. Fruitless forcing to evacuate the bowels arises, frequently amounting to actual tenesmus."—Diagnostisch-praktische Abhandlungen aus dem Gebiete der Medicin und Chirurgie durch Krankheitsfälle erläutert vom Dr. Löwenhardt, part i. p. 306.

British and Foreign Medical Review, vol. ii. p. 527.

on both, (for the attack is not always limited to one ovary,) we may often perceive a slight puffiness or swelling (Solon ; Nauche[1]), and upon pressure this part will be found very painful.

This tenderness will spread over the whole abdomen if the peritoneum be involved.

There is always more or less fever present, the skin is hot, the pulse quick and concentrated (Nauche), the stomach becomes disordered ; nausea and vomiting occur.

An examination, "per vaginam," is not satisfactory ; there is sometimes a slight increase of heat, but no sign which could indicate the true nature of the affection. As far as I know, we are indebted to Dr. Löwenhardt for first pointing out to the profession the importance and accuracy of the information obtained by an examination "per rectum."[2] The finger easily reaches to the natural situation of the ovary at the side of the uterus, and is able to appreciate the increase of bulk, and to ascertain any tenderness on pressure.[3]

Organic disease of the ovaries must always, more or less, inter-

[1] Mal. prop. aux Femmes, vol. i. p. 370.

[2] "Without the aid of examination 'per rectum,' it would be exceedingly difficult to form a certain diagnosis ; the finger 'per anum' easily reaches to the side of the uterus *where the swollen and generally painful ovary may be distinctly felt.*

"Examination, 'per vaginam,' leads to little or no certain results. We have, it is true, a number of indistinctly marked symptoms, which show that inflammatory action is going on. The vagina is warmer than natural : the os and cervix uteri are neither painful nor swollen at the beginning of the disease : in some cases there is a slight degree of tumefaction of this part, such as is observed shortly after conception."—Brit. and For. Med. Review, vol. ii. p. 527.

[3] The following case (abridged from Löwenhardt) very well illustrates the series of symptoms presented by this disease.

"Mrs. S——, æt. 40 years, of middling stature, delicate figure, and florid complexion, mother of several children, (the youngest of which is eight years of age) having hitherto enjoyed good health, was attacked, on March 12, 1829, with pains in the abdomen, when the catamenial period was just over, in consequence, as she supposed, of catching cold : these pains increased considerably the following day, and compelled her to keep in bed. She complained of a *continued throbbing pain on the right side of the abdomen, in the ovarian region, and a violent desire to pass water, accompanied with much painful scalding : the urine red and clear.* On closer examination the abdomen appeared nowhere enlarged or tender, *except in the above-mentioned spot, which was somewhat swollen, and pressure here increased the pain considerably.* The vagina was hot, but not painful, neither was the rectum ; but *upon examination with the finger through this passage, the ovary of the right side of the uterus was found swollen and painful.* There was general constitutional suffering ; the patient was feverish, with thirst, flushed cheeks, suffused eyes, a white, dry tongue, pain of head, pulse quick, but neither full nor hard. She was put on a strict antiphlogistic treatment, and recovered in the course of eight days."

The patient experienced a similar but more severe attack in the following year—presenting the same signs and symptoms, and amenable to similar antiphlogistic treatment.—See Brit. and For. Med. Review, vol. ii. p. 528.

fere with the uterine functions. The lochia will be checked and the menses suppressed by it. If the disease involve the substance of both ovaries, the power of conception (at least *pro tempore*) will be destroyed, and sterility will be the result. An opinion was broached some time ago by Prof. Carus, of Dresden, and adopted by many continental writers, as to the connection of nymphomania with ovaritis. That the two affections may co-exist cannot be denied, but that nymphomania is to be always referred to an inflamed condition of these organs, or that ovaritis must necessarily be attended by nymphomania, is contrary to the evidence of experience.[1]

The results of *post mortem* examinations vary according to the intensity of the disease.[2]

In the first degree, the ovary presents hardly any increase in volume,[3] especially in length, and is rather softer than in the natural state; its substance is firm, red, and injected: numerous capillaries traverse it in every direction; the vesicles are larger than in their natural condition. In the second degree there is enlargement to twice or four times its usual dimensions—a volume exceeding that of a hen's egg; a rounded or oval, flattened form; softness, friability, serous infiltration, of a yellowish colour; or a livid colour, with the same infiltration, sometimes with slight effusions of blood

[1] On this subject, the reviewer of Löwenhardt remarks—"We have never yet seen a case (of nymphomania) arising from this cause; whereas we have frequently witnessed cases of considerable venereal excitement arising from an inflamed condition of the vagina and external parts. On the other hand, inflammation of the ovary decidedly occurs, not only without the slightest approach to nymphomania, but is frequently attended by a directly opposite state of feeling on the part of the patient."—British and Foreign Med. Review, vol. ii. p. 528,

[2] The disease may prove fatal on the 4th or 5th day; treatment by resolution from the 9th to the 11th, or by suppuration from the 12th to the 14th. In the latter case, the pus is enclosed in a cyst, which often projects so that it can be opened externally. Occasionally the cyst contracts adhesions to a portion of the intestinal canal, and, opening through the parietes, the pus is discharged by stool. The cyst may also open into the cavity of the abdomen, and occasion immediate death. Sometimes the inflammation terminates in induration."—Nauche, Mal. prop. aux Femmes, vol. i. p. 372.

"On opening the bodies of females who have fallen victims to this disease, the organs which are the seat of disease are found in reased in volume, of a reddish brown; their texture similar in colour and softened, with here and there small collections of puriform matter, which is occasionally found even in the graafian vesicles. The observations of M. Dance (on Phlebitis, in Archives Gen. for December, 1828), have demonstrated this. M. Portal and others cite examples of cysts of a considerable size, filled with purulent matter, developed in the ovaries. Most generally they are covered by false membranes, and serious morbid changes are observable in the neighbouring organs."—M. Solon. Nouveau Dict. de Med. et de Chir. prat. art. Ovarite.

[3] "In forming a judgment of the natural size, it must be recollected that the ovaries always enlarge and are softer during pregnancy; and, that they are full twice their natural size in the latter months of utero gestation, and for some time after delivery."—Hooper's Morbid Anatomy of the Human Uterus, p. 6, *note*.

in numerous points. In the third degree, there is infiltration of fluid or concrete pus, deposited in small quantities in this softened mass, which is then pale and yellowish. In the fourth degree, there is softening with liquidity at the centre; sometimes, even a solution of a part of the surface, or of the entire ovarium, the shreds of which are carried along with the pus, and mingled in the peritoneal effusion."[1]

2. *Chronic* inflammation of the ovaria is always a sequence of the acute form, and presents a similar but more obscure series of symptoms. There is a deep seated dull pain in the region of the ovaries, occasionally aggravated by moving about, and by the evacuation of urine and fæces. There is occasionally a slight diarrhœa, with sweating.

The constitutional symptoms are generally absent, but the organic changes are equally ascertainable by an examination "per rectum." The catamenia are suppressed. Both species terminate alike.

Diagnosis. If we depend upon the symptoms alone, the diagnosis will often be very doubtful and obscure. Of 37 fatal cases, Mad. Boivin only detected two during the life of the patients. This is especially the case in puerperal fever, where all the symptoms are sure to be referred to the uterus or peritoneum.

An examination "per rectum" is the safest ground of distinction between *ovaritis* and *hysteritis*, *cystitis*, or *peritonitis*, because in no other affection is the ovary necessarily enlarged.

There is still a difficulty, even if we have proceeded so far satisfactorily; for inflammation and abscess of the softer parts lining the pelvis, will be in some danger of being mistaken for an ovarian affection, or vice versa.

Perhaps the union of a careful vaginal and rectal examination, would be the surest ground for diagnosis, and in some cases (puerperal, for instance,) the history of the patient will throw light on the disease.

Prognosis.[2]—From the obscurity of the symptoms, and the anatomical relations of these organs, inflammation and its results are so serious, that the prognosis is always grave. If the symptoms be detected early, the prospects of the patient will be much more promising.

Terminations.—1. It has already been stated, that the *acute* form of ovaritis may issue in the *chronic*. Both of these may terminate in *resolution*, which will be evidenced by the gradual subsidence of the local and general symptoms, by the eruption of the menses, or by the return or increase of the lochia, if the patient be in childbed.

[1] Boivin and Dugès, Diseases of the Uterus, &c. p. 489.

[2] With regard to the *prognosis*, all the diseases of the ovaria are bad. If they could be distinguished early, there are some that might perhaps be cured. But by the time any ground of doubt is furnished, the disorder is already confirmed, and become almost always incurable.—Astruc.

2. The inflammation may spread to the *broad ligaments* and the *peritoneum* generally. This is not unfrequent, and is marked by the accession of a more acute and constant pain, and of more general and intense abdominal tenderness. It is scarcely necessary to mention that this complication compromises the safety of the patient (Solon; Denman; Nauche).

3. Chronic inflammation may give rise to a degree of *swelling* and *induration*, which may persist without much inconvenience for a considerable time[1] (Seymour).

4. In other cases, and especially after an acute attack, the substance of the ovary becomes *softened* and reduced to the consistence of pulp.[2] This is a very serious termination as regards the functional integrity of the organ (Seymour).

5. The *formation of matter* is a frequent terminationn of both acute and chronic ovaritis[3] (Solon; Nauche; Seymour). After the acute form, the pus is generally more diffused throughout the substance.[4]

One of the largest abscesses on record, is that which M. Andral has quoted from the American Journals; the ovarium contained 20 pints of pus. Portal speaks of suppurated ovaria as large as an infant's head. There is a figure in our Atlas, pl. 34, G, of an encysted abscess, which appears to have been secondary to a kind of

[1] "Chronic inflammation of the substance of the ovarium terminates likewise, as in other viscera of the body, by thickening and enlargement of the part. Such cases, after the commencement of the disease, will often remain stationary, and without any inconvenience, for many years." Dr. Seymour relates an example of this kind.—Seymour on Diseases of the Ovaries, page 40.

[2] "Softening also takes place as the result of acute inflammation of these parts. A case recently occurred under my observation, where death, from inflammation of the womb, occurred about three days after delivery. The whole of the cellular membrane under the peritoneal covering of the uterus, and under that lining the pelvis, was in a state of diffuse suppuration, and the absorbent vessels, loaded with pus, could be traced nearly as high as the diaphragm. The ovaria were in a state of extreme softness, presenting the appearance of a vascular pulp, but no purulent matter was visible."—Seymour on Diseases of the Ovaries, p. 38.

[3] "Abscess is sometimes, indeed, only the result of inflammation induced in a steatomatous cyst, as in dropsy of the ovarium; there are cases in which these two diseases constitute but one mixed affection, whatever may have been its original character, in consequence of the inflamed dropsical cyst being thickened, and its contents being almost entirely changed into pus; or from a real abscess having gradually increased, and transformed the ovarium into a cyst." Boivin and Dugès, Diseases of the Uterus, &c. p. 491.

"The ovaria, like the substance of the uterus, seldom furnish any trace of inflammation having existed in their substance, unless dropsy and some other organic disease be so considered: I have met with only two instances of abscess. The one was the size of a child's head at birth: the other not longer than an orange. There was nothing in these different from common abscess. The whole of the internal substance of the ovaries was gone, and the walls were formed of a thick and rather ligamentous cyst, covered by the peritoneum."—Hooper's Morbid Anatomy of the Human Uterus, p. 2.

[4] Cruveilhier, Anat. Path. livr. 13.

dropsy of the ovarium. The same may undoubtedly be said of the case recorded by Vater (Haller, Disput. Med. t. 4, p. 401) in which the ovarium was as large as the human head, and contained pus distributed into several capsules. We ought also to refer to suppurated dropsies, those accumulations of twenty (Callisen), thirty-six, and thirty-nine pints, quoted by Logger, pp. 11 and 12."[1]

The formation of matter will be indicated by rigors, softness of the pulse, and mitigation of the general symptoms, with an increased sense of weight and throbbing locally. The *symptoms* in a great degree resemble those of dropsy of the ovarium, but "in dropsy, there is more evident and uniform fluctuation, more considerable volume, higher ascent into the abdomen, pain and tenderness only at a late period: in inflammation of the ovarium, there is partial fluctuation, hardness in several parts, pain and tenderness at the first moments of turgidity, seated in the pelvis or at its circumference. These constitute almost all their distinctive characters."[2]

The abscess may burst into the peritoneum, and give rise to fatal peritonitis; or, if not directly fatal, the inflammation may occasion adhesion between the ovary and some part of the serous membrane, which will prohibit the further escape of matter (Solon).

But more frequently the matter points at the iliac region (Solon), and escapes through the abdominal integuments,[3] or establishes a communication with the uterus, bladder, or rectum, and thence escapes externally (Boivin and Dugès[4]).

This happened in the case of the nun[5] who had never menstruated, as was discovered by a post mortem examination.

[1] Boivin and Dugès, Diseases of the Uterus, &c. p. 492, *note*.

[2] Ibid.

"A young woman, of the lowest and most unfortunate class of females, was a patient of Guy's Hospital, under the care of Dr. Bright, in the autumn of 1823.

"She was greatly emaciated, had a very quick and feeble pulse, a shining red tongue, and constant watchfulness. She suffered from constant and irrepressible diarrhœa, and for many successive days vomited both food and medicine: the catamenia were absent. The case made a considerable impression on my mind, from the extreme emaciation and solliquative diarrhœa, without any evident symptoms of diseases of the lungs or intestinal canal. After having been in the hospital about two months, she suddenly complained of the most acute pain over the abdomen, and in a few hours expired.

"On opening the abdomen, death appeared to have been produced by the effusion of a large quantity of pus into the peritoneal cavity, which escaped from an abscess in the right ovarium, which abscess appeared to arise from suppuration in the substance of the viscus, similar in every respect to phlegmonous abscess in any part of the body, and not connected with any cyst or change, or addition of structure, the product of morbid growth."—Seymour on Diseases of the Ovaries, p. 39.

[3] Denman's Midwifery, p. 476.

See also a "Memoire" on "ovarite puerperale," by M. Montault. Journ. hebdom. 6 annèe, vol. i. p. 413.

[4] Diseases of the Uterus, &c. p. 497, case ii.

[5] Mem. Acad. Scien. 1700. Observ. 5.

Boivin and Dugès relate similar cases.[1]

Or the tumified ovary may descend lower in the pelvis, so as to be felt as a fluctuating tumour between the vagina and rectum (Solon).

It has already been stated (page 260), that a communication is sometimes opened into the fallopian tube, and the matter thus discharged into the uterus.

Pus has occasionally been found in the ovarian veins and lymphatics (Boivin and Dugès).

6. The disease may terminate in gangrene, but it is very rare, and will not be discovered till after death.

7. "Several of these diseases—as melanosis—may be fairly attributed to exudation of blood into the tissue of the affected parts; to a kind of unabsorbed, though organised ecchymosis identified with the texture of the organ. There are cases, however, in which more serious consequences result from these sanguineous congestions, which are then rapid and violent, sustained by a hemorrhagic effort, and, in short, resembling apoplexy, or other hemorrhagy from the capillaries which constitute the substance itself of the organ."[2]

8. It cannot be denied that inflammation *may* also have a share in the production of other morbid states—such as serous cysts, hydatid cysts, fibrous, cartilaginous, and osseous tumours, encephaloid, &c. &c.

Treatment.—Of acute ovaritis. If the patient be attacked with puerperal fever, the remedies directed against the uterine or peritoneal affection will be equally proper for the ovarian. The most active antiphlogistic treatment will be necessary, venesection, leeches to the iliac region, to the groins, anus, or labia, should be prescribed (Solon). followed by poultices and fomentations to the lower belly, calomel and opium, &c. Emollient vaginal injections and enemata will be beneficial; absolute rest and a spare diet must be adopted. A judicious application of these remedies will, in many cases, especially in idiopathic ovaritis, be adequate to the relief of the disease.

We must attentively watch the course of the disease, and be prepared to meet each *complication* appropriately.

If matter be detected in the illiac fossæ, or groins, it must be evacuated, but it is desirable that we should wait until adhesions be formed between the ovary and peritoneum (Solon); whenever this is the case, an opening is to be made (Boivin and Dugès) with a bistoury or caustic.[3] M. Solon thinks the latter preferable, because

[1] Diseases of the Uterus, &c. p. 495.

[2] Boivin and Dugès, Diseases of the Uterus, p. 487.

[3] "If fluctuation be perceptible, an opening should be made, with a bistoury or a trocar, deep into the abdomen, so as to penetrate the abscess. The pus will then escape externally, and we may hope to cure the patient." Nauche, Mal. prop. aux Femmes, vol. i. p. 373.

it tends to determinate adhesions, whilst it forms an eschar, which eschar may be punctured in its centre.

If the pouch of matter be felt through the parietes of the vagina, it will not be difficult to penetrate it with a lancet or trocar. In a case related by M. Solon, which occured in the Hospital Beaujon, absorption of the matter took place, just as it was determined to puncture the cyst.[1]

Against gangrene we may employ antiseptics and chlorides internally, with blisters and camphorated frictions externally.

2. In the *chronic form*, antiphlogistics are no longer of the same value, and we must have recourse to counter-irritation by setons, moxas, &c.

Benefit is sometimes derived from frictions with iodine, or from its combinations with mercury.

Small and repeated doses of calomel have been found very useful, with decoction of sarsaparilla.

The general health should be attended to; the diet must be moderate, and gentle exercise may be taken.

Mineral waters have been taken with benefit.

Failing in all these remedies, it has been proposed to cut down upon, and extirpate the ovary, but no one has been fool-hardy enough to reduce this suggestion to practice.

CHAPTER II.

ENCYSTED DROPSY OF THE OVARY.[2]

This name is given to a morbid accumulation of fluid in the ovary, contained in one or more cells or cysts.

It is a disease of slow growth. It is not frequent during the first half of female life, though some such instances are on record,[3] but it is by no means uncommon about the cessation of the catamenia. Extreme old age seems to be exempt from it. It appears that those who have borne children are more obnoxious to it than the unmarried, and that it attacks most commonly females of scrofulous habits.

Pathology. The disease is considered by most authors, as a dropsy of the graafian vesicles (Seymour; Boivin and Dugès), and it is supposed to consist primarily in an inflammatory condition of their lining membrane (Blundell;[4] Nauche[5]).

Dr. Burns objects to the term "dropsy of the ovarium," inasmuch as "the affection is not dependent on an increased effusion of a

[1] Nouv. Dict. de Med. et de Chir. prat. art. Ovarite.

[2] For very numerous references to cases of this disease, the reader is referred to Dr. Davis's Obstetric Medicine, p. 768, et seq.

[3] Dr. Douglas saw a case in a female of 27 years of age.

[4] Diseases of Women, p. 104.

[5] Mal. prop. aux Femmes, vol. i. p. 165.

natural serous secretion or exhalation, but is of the nature of what has, perhaps not very properly, been called cystic sarcoma, and consists in a peculiar change of structure and the formation of many cysts, containing sometimes watery but generally viscid fluid, and having cellular, fibrous, or indurated substance interposed between them, frequently in considerable masses."[1]

Le Dran states that the dropsy always succeeds to scirrhus of the ovary, but this is denied totally by William Hunter and Burns.

The dropsical fluid varies much in quantity: there may be only a few ounces, or there may be several gallons;[2] it appears to be limited only by the distensibility of the ovary; for when it has been evacuated by tapping, the secretion re-commences with astonishing rapidity, so as to refill the sac in a very short time.

The contents of the sac may be quite fluid, viscid like jelly, or still more concentrated, and, when there are many cells, fluid of different characters may be contained in each (Cruveilhier). It has been said that after each tapping the fluid becomes thicker; this, however, is by no means invariably the case (Blundell[3]). It is difficult, if not impossible, to ascertain by abdominal manipulation, what may be the consistency of the fluid. The fluctuation may be more or less obscure, but we cannot depend upon this, as it may arise from the density of the ovarium parietes.

In colour it is generally yellowish; but this may vary to a dark brown or even black (Hamilton[4]), and its transparency will in proportion diminish.[5]

Occasionaly it is mixed with blood, fluid or coagulated (Nauche), and with pus (Cruveilhier), or it may be decomposed (Delpech).

[1] Midwifery, p. 136.

[2] Blundell on Diseases of Women, p. 105. Med. Chir. Trans. vol. xiii. p. 330. Boivin and Dugès, Diseases of the Uterus, &c. p. 459. Davis's Obstetric Medicine vol. ii. p. 448.

Morand evacuated 427 pints in ten months. Mem. de l'Acad. de Chirurg. vol. ii. p. 448.

Martineau also drew off 495 pints within a year, and from the same patient 6631 pints by 80 operations, within 25 years. Philos. Trans. 1784, p. 471.

A lady was tapped by Portal 28 times; and in a case related by Ford, the patient was tapped 49 times, 2649 pints being taken from her.

[3] Blundell on Diseases of women, p. 106.

[4] Pract. Obs. part. i. p. 87, *note.*

[5] "The fluid which they contain may be clear or yellowish in the smaller vesicles; clear and transparent, or muddy, thick like jelly, cream, or honey, in the larger. It is sometimes mixed with fluid or coagulated blood; with hydatids, pus, fleshy substance, as the remains of a placenta, with membranes, hair, or bony matters. It is sometimes of a different colour, consistence, and nature, in the different cells of the same cyst."—Nauche, Mal. prop. aux Femmes, vol. i. p. 165.

"M. Jules Fontanelle ascertained by analysis, that of 8¼ pints of this brown and turbid fluid, there were 6 parts of fibrine, 97 of albumen, 34 of congealed gelatine, a little phosphate and hydrochlorate of soda."—Boivin and Dugès, Diseases of the Uterus, &c. p. 459, *note.*

Small scales of cholesterine are occasionally found in some of the cells (Cruveilhier[1]).

But the contents of these dropsical sacs are not always fluid, we sometimes find hydatids[2] and fleshy substances resembling portions of placenta. Matters of a still more extraordinary character are by no means very rare. Hair, teeth, bones, &c. have been discovered in considerable quantities.[3]

The only rational explanation of the presence of these latter is the supposition that two germs may be involved in the same vesicle, and whilst one becomes the seat of dropsical accumulations, the other by some means is stimulated into partial development.

Dr. Lee does not consider these singular productions to be connected with conception, but as examples of that monstrosity described by MM. Ollivier and Breschet, as "*Diplogênèses par penetration.*"[4]

At an early stage of the disease, the fluid may be contained in one vesicle, but as others are involved and increase in size, the whole becomes agglomerated and adherent, forming what has been called multilocular or many celled dropsy (Nauche). This, however, is not always the case; in some instances the fluid occupies but one large cavity[5] (Seymour). When there are cells, they may or may not communicate with each other (Blundell[6]). It is a great advantage when they do, as one puncture will drain the whole fluid, just as well as though it were contained in a single sac.

[1] Nouv. Dict. de Med. et de Chir. prat. art. Ovaire.

[2] "Distension of the ovaria is sometimes produced by hydatids,—that is, vesicular bodies detached from the cavity containing them; real entozoa: this state of things has frequently been ascertained only on post mortem examination, whether the individual died of some other affection, or whether, as in the case given by M. Cruveilhier from M. Barret, the inflammation of the sac had itself brought on death. In the case of M. Roux, quoted by the same writer, an incision made in the tumour formed by the hydatids near one of the sides of the vagina and pudenda, allowed of their expulsion, and cured the patient."—Boivin and Dugès, Diseases of the Uterus, &c. p. 457. See also Med. Chir. trans. vol. ix. p. 427.

[3] Cyclop. of pract. Med. art. Diseases of the Ovaria.

[4] According to Cruveilhier the cysts may be *unilocular*, where probably only one vesicle was originally diseased, the walls are fibrous and smooth externally; *multilocular*, with an irregular surface; *multiple*, composed of a series of multilocular or unilocular cysts; *areolar* or *gelatiniform*, "in which the tissue of the ovary is divided into cells or areolæ, and which exactly resembles the areolar or gelatiniform cancer of the stomach, &c. *acephalocysts*. Nouv. Dict. de Med. et de Chir. prat. art. Ovarie. Cruveilhier, Anat. Path. liv. 5. pl. 3.

[5] "Occasionally one or both ovaria are converted into simple cysts; the whole of the cellular substance and vesicles disappearing; that which was the fibrous coat of the ovarium, becoming the fibrous coat of the cyst." Seymour on Diseases of the Ovaria, p. 45. Cruveilhier, Anat. Pathol. 5me livr.

[6] "The late Mr. Cline used to exhibit a preparation of this sort, observing that if you tapped one of the cysts in this state of the parts, you would of consequence empty all the rest at the same time. Mr. Cline's preparation

If the inner surface of the sac be examined, it will in most cases be found quite smooth and having the appearance of serous membrane; in some few others, it is covered by irregular excrescences, compared by Burns to uterine cotyledons. These may interfere with our wishes, if we try to procure adhesion of the walls of the sac by exciting inflammatory action (Blundell).

Each cyst is said to consist of three membranes, the external and internal ones, serous; and the intermediate one of a fibrous texture (Nauche[1]).

The parietes vary much in thickness; sometimes they are as thin as brown paper; in other cases, they are an inch thick. This increase may depend either upon a hypertrophied condition of the natural parietes, or upon the deposition of foreign tissue.[2]

Dr. Blundell and other authors speak of scirrhus combined with, and complicating ovarian dropsy.

Occasionally, large veins are seen meandering over the surface of the tumour, but this is not generally the case. Arteries may also be felt pulsating sometimes, and, in one such case I observed a distinct "*bruit de soufflet*," like the placental "*souffle*."

The relations of the diseased ovary with the adjacent viscera, may become practically important. In some cases, it continues

is the only case which it has been my lot to witness, but in many cysted ovarian dropsy, it far more frequently happens (in nine cases out of ten at least, and probably in a larger proportion) that the cells are not in communication with each other, so that the tapping of one cyst produces a partial relief only."—Blundell on Diseases of Women, p. 105.

[1] Mal. prop. aux Femmes, vol. i. p. 166.

[2] "This dropsy, the most common of all encysted dropsies, is often complicated with some of the diseases which have been already described, so that one part of the cyst containing the fluid, sometimes presents a considerable thickness, and appears to be scirrhous, cerebriform, or steatomatous. In such cases only could the empty cyst weigh fourteen and even twenty-seven pounds (Morand). The simple cyst is always fibrous, sometimes muscular and reticulated (Vogel); it is of a grayish-white colour, and its thickness varies considerably in such circumstances, in different persons; the sac, seldom thin and semi-transparent, more frequently presents one or more lines, and even an inch in thickness; this thickness, however, is not the same throughout. The ovarium or its remains, which have sometimes entirely disappeared, may form a sort of knot on one of the parietes of the sac. In other cases, there are similar knots, or cartilaginous, or even osseous deposits. The peritoneum covers externally this proper tunic, and very often numerous and voluminous vessels really hypertrophied (De Haen), like the organ itself which supplied the original elements of the cyst, are found over almost all the superficies or in one of its regions exclusively; these are principally veins according to Cruveilhier; Delpech considers them to be arteries, and says he has carefully dissected them, and found them in the parietes of the cyst, of the size of the little finger."—Boivin and Dugès, Diseases of the Uterus, &c. p. 457. See also Hooper's Morbid Anat. of the Human Uterus, p. 20, et seq.

Dr. Hodgkin has given a most admirable account of the anatomical peculiarities of these adventitious structures, in the Medico Chirurg. Trans. vol. xv. part 2, p. 275, et seq.

He speaks of three classes. 1. Of those whose parietes "present the very

free and unconnected, but "when a patient has been tapped frequently, under this disease, I strongly suspect that extensive adhesions to the parts adjacent will be by no means unfrequent; but if the disease have been unattended with much inflammation, it does certainly sometimes happen that the adhesions of an enlarged ovary are very slight, so that the whole mass may be taken away."[1] We shall see hereafter, that the proposed radical cure of the disease depends very much for success upon the freedom of the tumour.

This disease may attack one or both ovaries, but it is rare to find both arrived at the same stage; one may fill the abdomen, whilst the other is not larger than an orange.

Causes.—It is often very difficult to attribute it to any cause, the organs are so little exposed to ordinary irritants, so defended by the bony pelvis, and they yield so few indications of their primary affections, that in many instances we must be quite at a loss.

It is sometimes coincident with diseases of the womb, with suppressed menses, or checked leucorrhœa (Nauche).

It has been attributed to damage received during difficult labour, or to violent emotion, blows, falls, cold, &c. (Burns.[2])

Nauche conceives it to be constitutional, and the result of a scrofulous diathesis; whilst among the predisposing causes Capuron[3] places celibacy, sterility, and old age.

The remains of placenta, teeth, hair, &c. have been attributed to a false conception (Nauche), but there are many circumstances which are left unexplained by this theory.

Symptoms.—For some months, or it may be years, after the commencement of the disease, the ovary will continue in the cavity of the pelvis, but upon attaining a certain size (just as with the uterus in pregnancy), it escapes into the cavity of the abdomen. Now, it is very evident, that not only will the general symptoms vary, but that the mechanical symptoms, resulting from pressure upon the pelvic viscera, will be very diverse from those which are developed after the tumour occupies the abdomen.

In either case, they may be divided into those which arise from mechanical pressure, from sympathetic irritation, or from diseased actions in the ovary itself. The intensity of the two first is in proportion to the increase of the tumour, and the symptoms resulting may be equally well marked, whether the tumour be in the pelvis or abdomen. The latter series is developed as the disease approaches its termination.

Let us first enumerate the more prominent symptoms which arise

remarkable property of producing other cysts of a similar character with themselves. 2. Of those characterized by slender peduncles. 3. Of those with broad and extended bases.

The description is too long for quotation, but will amply reward the perusal.

[1] Blundell on Diseases of Women, p. 107.

[2] Midwifery, p. 149.

[3] Mal. des Femmes, p. 178.

whilst the tumour is in the pelvis.[1] These are at first very deceptive; the patient feels a weight in the pelvis without any illness, and as it often happens that the menses are suppressed, the breasts painful,[2] increasing in size, and sometimes secreting milk (Burns[3]), she of course fancies herself pregnant (Capuron). It is said that morning sickness occurs, as in early pregnancy.[4]

As the tumour increases in size, its weight becomes an inconvenience, and is accompanied by occasional dysuria, and sometimes by constipation and piles.

The pressure upon the rectum, by arresting the progress of the intestinal contents, sometimes gives rise to great distension of the bowels, and also to dilatation of the uterus (Burns). "In a case," says Doctor Robert Lee, "which lately came under our observation in the Marylebone Infirmary, an ovarian cyst, having become firmly impacted between the bladder and rectum, produced all the symptoms of stricture of the rectum. In a lady now under our care, the presence of an ovarian or uterine tumour in the pelvis, which presses upon the neck of the bladder, renders it impossible for the bladder to be emptied without the introduction of the catheter."[5]

The patient also complains of a dragging sensation from the loins.

If a vaginal examination be made, we may discover a tumour between the vagina and rectum; and, if the parietes be thin, fluctuation may be detected. The os uteri may be in its natural situation, depressed or elevated, or pushed to either side, just according to the size and situation of the ovarian tumour, which is not sensible to pressure.

If the finger be introduced into the rectum past the tumour, we shall find the fundus uteri, and be able to distinguish it from the

[1] "There are three characteristics by which recto-vaginal dropsy of the ovary may be known: a tumour within the cavity of the pelvis, with the vagina in front, and the rectum posteriorly; a fluctuation more or less palpable; and an assemblage of symptoms, more numerous in some cases, of smaller number in others, but most of them referable to irritation, obstruction, and compression of the viscera within the pelvis."—Blundell on Diseases of Women, p. 108.

[2] M. Robert says, that it is generally the one on the same side as the diseased ovary.

[3] Midwifery, p. 137.

[4] "In a case detailed by Vater, the patient had symptoms of pregnancy, secreted milk, and even thought she felt motion. The belly continued swelled, and she had bad health for three years and a half, when she died. The abdomen contained much water, and the right ovarium was found to be as large as a man's head, containing capsules, filled with purulent-looking matter. The uterus was healthy, but prolapsed, and the ureter was distended from pressure.—Haller's Disp. Med. tom. 4, p. 40. This was not a case of extra uterine gestation, for the ovarium was divided into cells, and had no appearance of fœtus."—Burns' Midwifery, p. 137, *note*.

[5] Cyclopedia of Pract. Med. art. Diseases of the Ovaria: also Burns' Midwifery, p. 138.

enlarged ovary. This is very necessary, or we might conclude the case to be retroversion of the womb. In addition, we may perhaps decide whether one or both ovaries is diseased.

But if we are not called to the patient until the ovary has ascended into the abdomen, we shall find some alteration in the symptoms. There is no complaint of weight in the pelvis, or of bearing down, and the constipation may have ceased. Instead of difficulty in passing urine, the patient now rather complains of the impossibility of retaining it long.

The pressure upon the veins of the abdomen, and lower extremities, will be attended with the usual consequences (as in pregnancy); piles will form, and one or other leg may become œdematous.

As the tumour increases, it will be found to compress more or less the intestines, stomach, liver, and even to push up the diaphragm, interfering with the functions of the stomach, and giving rise to palpitations, dyspnœa, heartburn, &c. The quantity of urine is sometimes diminished (Denman), in others unaltered. In a case related by Portal,[1] the ureters and kidneys were compressed, and the urine retained. When the sac was punctured, the urine flowed freely into the bladder.

The patient's having been some time ill, and debarred from active exercise, will interfere with her general health; and it seldom happens that these tumours attain a large size in less than a year or more.

The sympathetic irritations very often persist, the breasts continuing large and painful, and secreting a thin milky fluid. It does not always interfere with the generative functions, for pregnancy has been known to occur during the existence of an ovarian dropsy.[2] If the tumour have ascended into the abdomen, no inconvenience may be experienced, but if not, parturition may be impeded, and the patient be more or less compromised.

Menstruation is sometimes regular, sometimes interrupted or suppressed. Dr. Seymour says, that "when both ovaria are diseased in this way, the catamenia are always absent."

If we examine the abdomen, we may detect the tumour as soon as it appears above the brim of the pelvis, and it will then be found lying in one of the iliac fossæ. There it remains for some time, gradually encroaching upon the abdominal cavity as it increases, but, until it quite fills it, always leaning more to one side than the other, and occupying the lower rather than the upper half (Nauche).

The surface may be felt to be either smooth or tuberose; and if the walls be tolerably thin, fluctuation will be detected.

[1] Cours d'Anatomie Medicale, tom. v. p. 459.

[2] Med. Chir. Trans. vol. xviii. p. 226.—Hamilton's Pract. Obs. pt. i. part 71.

"Females have become pregnant, and have been delivered many times, notwithstanding a dropsy of one of the ovaries."—Capuron, Mal. des Femmes, p. 182.

This sign is more obscure than before the ascent of the tumour, until the accumulation be considerable.

If a *vaginal* examination be made, the uterus will be found higher than natural, with the cervix drawn out as during the latter months of pregnancy.

Pressure upon the os uteri communicates no shock to the other hand placed upon the abdomen.

The general health, I have already said, is tolerably good for a considerable time, but as the disease advances, it is interfered with by the third class of symptoms, or those which are caused by diseased action in the ovary itself. Dr. Burns' description is so graphic, that I quote it with pleasure:—

"In the course of the disease the patient may have attacks of pain in the belly, with fever, indicating inflammation of part of the tumour, which may terminate in suppuration, and produce hectic fever; or the attack may be more acute, causing vomiting, tenderness of the belly, and high fever, proving fatal in a short time; or there may be severe pain, lasting for a shorter period, with or without temporary exhaustion; and these paroxysms may be frequently repeated; but in many cases, these acute symptoms are absent, and little distress is felt until the tumour acquire a size so great, as to obstruct respiration, and cause a painful sense of distension. By this time the constitution becomes broken, and dropsical effusions are produced. Then the abdominal coverings are sometimes so tender that they cannot bear pressure; and the emaciated patient, worn out with restless nights, feverishness, and want of appetite, pain and dyspnœa, expires."[1]

Encysted dropsy of the ovary is of slow growth, and may last many years without destroying the patient,[2] though these cases are rare.

It may terminate in various ways; but unfortunately it is very seldom that the patient escapes.

1. In some few cases the disease would appear to have terminated in *resolution* by absorption of the fluid.

2. *Inflammation* may take place in the serous covering of the cyst, giving rise to *adhesions* between the ovary and the small intestines,[3] colon, bladder, vagina, &c. into which the ovary *some-*

[1] Burns' Midwifery, p. 139.

[2] "The Memoirs of the Academy of Surgery prove that it may last 58 years. Prof. Sabatier has examined the bodies of several women who have carried these encysted tumours during half a century, without alarming derangement of health. Dropsy of the ovary, then, is not a very alarming disease, unless it be very ancient and very voluminous."—Nauche, Mal. prop. aux Femmes, vol. i. p. 174.

See also a case in Medical Gazette for July 18, 1836.

[3] "When I was attending the wards of this hospital, a woman, of the name of Myers, came here with an exceedingly large abdomen; this enlargement was occasional, and the woman got better repeatedly, after large spontaneous eruptions of water, by vomiting and purging. Now I have no doubt that in this case the dropsy was ovarian, and in all probability

times opens, and by which the fluid is evacuated, with, at all events, temporary relief, and in some cases perfect cure (Denman ;[1] Seymour[2]). Through the kindness of Dr. Croker, I had an opportunity of seeing more than one patient in the "Hospital for Incurables," who obtained relief from time to time in this way.

These adhesions very often alter the position and relation of the viscera. The sac has in some cases opened externally through the umbilicus (Seymour), or through the groins (Monro).

3. *Inflammation* may attack the ovary and carry off the patient either quickly or after the formation of matter. This not unfrequently happens after the patient has been tapped.

4. The *parietes of the ovary may give way*, and its contents be evacuated into the peritoneum, sometimes causing death by inflammation, but in a few other cases obliterating the sac by adhesions Seymour ; Blundell).

Diagnosis. Whilst confined to the pelvis, it may be distinguished—1. from *retroversion of the uterus*, by its slow growth, the mildness of the symptoms, and by an examination "per rectum."

2. From *dropsy of the fallopian tubes*, by a careful examination "per vaginam" and "per rectum," and by the more prominent symptoms, such as weight, downward pressure, dysuria, and constipation.

3. From *early pregnancy*, by careful internal examination only, by which the ovary can be distinguished from the fundus uteri. The diagnosis, however, may be confused by the coexistence of pregnancy and encysted dropsy.

4. From *tumours in the cellular membrane between the vagina and rectum*, principally by the extent of its mobility.

After its ascent into the abdomen it may be distinguished—1. From *the distended bladder*,[3] by a vaginal examination, and by the effects of catheterism, which should never be omitted in all such cases.

2. From *ascites*,[4] by the defined form of the tumour, by its permanent inclination to one side, by its being unaltered in the

the cyst occasionally opened into the intestines by ulceration or rupture, a sort of natural tapping being performed."—Blundell on Diseases of Women, p. 122.

[1] Midwifery, p. 84.

[2] Illustrations of Diseases of the Ovaria, p. 52.

[3] A distended bladder has been mistaken for ovarian dropsy ; nay, the uterus itself has been tapped when the womb has been pregnant.—Blundell on Diseases of Women, p. 111.

[4] Dr. Hamilton proposes the operation of tapping as a means of diagnosis between ascites and ovarian dropsy. "The peculiar appearance of the fluid, which in dropsy of the ovarium is commonly amber coloured, and of the consistence of melted calf's foot jelly, but more particularly the collapsed sac, distinctly perceivable on the day after tapping, like the contracted uterus on the day after delivery, afford certain evidence of dropsy of the ovarium."—Pract. Obser. part i. p. 87.

recumbent posture, by the *obscure* fluctuation (Boivin and Dugès[1]), by a vaginal examination which will reveal the elevation of the uterus, and by an investigation "per rectum," which enables us to detect the enlarged ovary. The general symptoms are less marked in ovarian dropsy than in ascites (Lee).

3. From *chronic peritonitis*, by the resonance of the abdomen on percussion in many points, its tenderness, the projections which it contains, parallel to portions of adherent intestines. (Boivin and Dugès.)

4. From *pregnancy*, by the duration of the disease sometimes, and by a careful comparison of auscultation, vaginal and rectal examination, and the symptoms.

I may just remind the reader, that if the tumour contain any large arteries, a sound perfectly resembling the *placental souffle* may exist quite independent of gestation.[2]

5. From *extra-uterine pregnancy*, by the history of the case, and by careful *external* and *internal* examination.

6. From *malignant disease of the ovary*, by its more rapid growth,[3] and by the mild character of the symptoms.

Prognosis. In forming our prognosis, we must be governed very much by the size of the tumour, by the length of time it has existed, by the local condition, and by the constitution of the patient.

Treatment. At an early period, whilst the tumour is within the cavity of the pelvis, we may perhaps attempt the palliative treatment with some prospect of success,[4] though Capuron and others express great doubts.

[1] "This characteristic may serve especially to distinguish the cases in which ascitus and encysted dropsy co-exist: a space is then perceived between the abdominal parietes, and a tumour unattached within the cavity of the peritoneum: this space is fluctuating, filled with water, constituting a layer of variable thickness in different points, and even in the same point, according to the altitude of the patient; a brisk pressure of the hand upon the abdomen easily removes the water and strikes against the cyst, the resistance of which is always perceptible."—Boivin and Dugès, Diseases of the Uterus, &c. p. 465.

As this phenomenon will occur in precisely the same manner when ascites is combined with pregnancy, its value in ovarian disease is proportionably diminished.

[2] See Dr. Montgomery's work On the Signs of Pregnancy, p. 123.

Bouillaud, in his Traité Clinique des Maladies du Cœurs (Brussels edit. p. 73), when speaking of the anormal sounds of arteries, mentions two cases of tumour in the region of the ovaries, accompanied by "bruit de soufflet, ordinaire and intermittente;" and this he attributes to their pressing upon some large artery.

[3] Rapid growth, when it occurs, is an excellent diagnostic; for, though slow growth is no certain disproof of encysted accumulation, we may be almost certain that the ovary is enlarged from dropsy, scirrho dropsy, or, at all events, an encysted accumulation of one kind or other, if the growth have taken place in the course of a few months.—Blundell on Diseases of Women, p. 108.

[4] See Ryan's Journal, July 29, 1837.

Diuretics, diaphoretics and purgatives, with abdominal frictions, may be employed, provided they are not carried to such an extent as to injure the constitution of the patient. In some cases they have appeared to be useful;[1] but more generally no benefit is derived from them, so that the opinion of the profession is rather adverse to their use. (Nauche; Capuron; Burns; Blundell.)

Gentle percussion, combined with compression of the tumour, has been tried, and, as is reported, with success.[2]

Mercurial frictions have been temporarily successful (Clarke), but there are objections to their employment (Hamilton). More benefit has been anticipated from iodine, but the cures are at present too recent to be relied upon (Boivin and Dugès). It must be administered with great caution, and only in the absence of all signs of inflammation (Seymour).

It will be desirable that we should apply ourselves to the relief of any mechanical inconvenience, such as strangury or constipation, by catheterism and aperient medicine. Complete relief may sometimes be afforded by pushing the tumour above the brim of the pelvis.

If there be any local complication or constitutional debility, such will be important objects of judicious treatment.

Nauche recommends in scrofulous constitutions, besides the general remedies usually employed, frictions of the abdomen with

[1] "In the beginning of this dropsy, when the increasing ovarium is first perceptible through the integuments of the abdomen, and sometimes in its progress, there is often so much pain as to require repeated local bleeding by scarification or leeches, blisters, fomentations, laxative medicines and opiates, to appease it. I have also endeavoured to prevent or remove the first enlargement by a course of medicines, the principal of which was the ung. hydrarg. rubbed upon the part, or calomel given for a considerable time in small quantities, with an infusion of burnt sponge; or the ferrum tartarizatum or ammoniacale; trying occasionally what advantage was to be obtained from blisters, from a plaster composed of gum. ammoniacum dissolved in the acetum scillæ, or lastly, from electricity. From all or some of these means, I have frequently had occasion to believe some present advantage was obtained, or mischief prevented; but when the disease has made a certain progress, no method of treatment has hitherto been discovered sufficiently efficacious to remove it or prevent its increase." —Denman's Midwifery, p. 81.

"When they (diuretics) produce any effect, it is chiefly that of removing dropsical affection combined with this disease; and in this respect they are most powerful immediately after paracentesis. With regard to their power, or the power of any other medicine, of diminishing the size of the ovarium, my opinion is, that they have no more influence on it than they have over a melicerus tumour on the shoulder, or over the disease when it occurs in the testicle, or over the configuration of the patient's nose."—Burns' Midwifery, p. 141.

[2] Dr. Hamilton states, that after sixteen years' trial, he has "succeeded in a number of cases, in curing or retarding the disease by the simple means above alluded to, viz. firm compression of the abdomen, percussion, the use of the warm bath, and a protracted course of the muriate of lime, together with the ordinary means for promoting general health." The professor strongly objects to the use of mercury.—Pract. Obs. part i. p. 102, 105, 108.

the ung. napolit. or with an ointment containing 8 or 10 grains of calomel—or from 10 to 20 grains of the hydriodate of potash, or the ioduret of mercury, in the ounce.[1]

As to the plan to be adopted when the pelvic tumour offers an impediment to parturition, if we cannot push it above the brim of the pelvis, there can be little hesitation in agreeing with Burns, that puncturing the ovary should be tried before having recourse to the crotchet.[2]

When the tumour has ascended into the abdomen, it is still advisable to postpone all active interference as long as possible; but when this can no longer be done, when the tumour is so large and so tense as to impede the functions necessary to life, or to threaten rupture, then we anticipate the evil, and evacuate the fluid by making an incision through the integuments, and plunging a trocar into the sac, about midway between the pubes and umbilicus, a little to one side of the linea alba.[3]

Petit Radel,[4] Ledran,[5] and Monro, mentions cases which were cured by this method, but more generally the relief is but temporary, and there are several weighty objections against it.[6] 1. The woman may sink from exhaustion if the fluid be evacuated rapidly. 2. Inflammation of the peritoneum may carry off the patient. 3. Inflammation may attack the sac, and prove fatal[7] (Cruikshank). 4. The

[1] Mal. prop. aux Femmes, vol. i. p. 175.

[2] Burns' Midwifery, p. 140.

See Dr. Park's and Dr. Merriman's observations on this subject in the 3d and 10th volumes of the Medico-Chirurgical Transactions.

[3] Denman seems to object to making an incision into the part, at least, until the last extremity. "Nevertheless," says he, "I believe it in general, the best practice to defer the operation, till we are driven by necessity to perform it, as the progress of the disease is afterwards more rapid."—Midwifery, p. 83.

"Although women do live now and then to undergo these frequent tappings, yet they more generally sink; and hence, in ordinary practice, the longer the first tapping can be delayed the better; for there is nothing more unwise than to ground your general practice upon the exception to the rule, though the error is not unfrequently committed. Tapping, after all, is but an unsatisfactory remedy; in scirrho-dropsy it is dangerous, in dropsy, with many cysts, it is of partial relief; when the encysted accumulation is viscid, it is of no effect, and even in cases the most favourable, tapping exposes the patient to inflammations, adhesions, suppurations, exhaustions, repetitions, and death."—Blundell on Diseases of Women, p. 113.

[4] Encyclopedia.

[5] Mem. Acad. Chir.

[6] See Hamilton's Pract. Observations, part i. p. 111.

[7] The late Mr. Chevalier once had occasion to tap an ovary containing seventeen gallons; in this case it was thought proper to proceed with caution, and the water was drawn off, not all at once, for this sudden collapse would have been dangerous, but at three or four different times; yet notwithstanding the prudent manner in which the operation proceeded, extensive inflammation of the cyst ensued, and the woman died hectic, at the end of a few weeks, with one or two gallons of puriform matter in the cyst. It is remarkable that no inflammatory tenderness accompanied this attack."—Blundell on Diseases of Women, p. 113, note.

sac refills with such rapidity as shortly to require repeated tappings. 5. The operation may be performed in vain in the case of many celled encysted dropsy, if the cells do not communicate, or if the fluid be too viscid to pass through the canula,[1] or if the main bulk be hydatids. 6. If scirrhus be combined with the dropsy, the operation will be of no avail, and the patient's end rather accelerated.

All these considerations should be duly estimated before we attempt the operation; but notwithstanding them all, the temporary prolongation of life may be of such importance as to induce us to operate.

A flat trocar and canula appear to occasion the least pain (Blundell), and it should be plunged sufficiently deep to ensure its traversing the parietes of the cyst. After the operation, a broad binder should be applied tightly around the abdomen.

It has been mentioned that one tapping necessitates another if the patient live, and such cases have been cited (page 275, note). Whenever this is the case, the patient should be very carefully examined to ascertain if she be pregnant. This, which is necessary in every case, becomes doubly so the second time, as the patient may have conceived in the interval (Blundell). The distended bladder and the pregnant uterus have both been punctured by mistake for ovarian dropsy.

If there be many cells, we are advised to make several punctures, or if the fluid be viscid, to make a large opening (Nauche[2]), but both these propositions require mature consideration.

After the operation, diuretics may be given, and a blister applied to the abdomen by way of preventing the re-accumulation, and this has occasionally succeeded.

Considering the unsatisfactory result of merely evacuating the contents of the sac, several other plans have been proposed in order to obtain a radical cure.

1. It has been suggested, that after the emptying of the sac, some stimulating fluid might be injected as is done occasionally in hydrocele, for the purpose of exciting inflammation which may end in obliteration of the sac. It is unnecessary to point out

[1] "I remember once seeing a woman in the east of the town, labouring under a dropsy of this kind, for which tapping was recommended. On seeing this woman, I told the friends that the contents of the ovary were probably viscid; for though the growth had been rapid, the fluctuation was obscure; nor did I regret this contrary opinion, for when the ovary was tapped, there came away enough to show that encysted accumulation existed; but still the discharge was sparing, viscid, and the tumour remained unreduced. Mr. Abernethy afterwards saw this case, when the urgency of the distension led the attendant to operate again, with as little benefit as before; on observing this, Mr. Abernethy prudently dissuaded from further attempts, observing, as I was informed, 'that it would not do to go on boring holes in the belly,' and ultimately the patient died."—Blundell on Diseases of Women, p. 112, note.

[2] Mal. prop. aux Femmes, vol. i. p. 176.

the hazard incurred by exciting inflammation in so large a surface, but it should be stated that the results of the trials which have been made, have been very disastrous (Blundell; Hamilton[1]).

2. Dr. Blundell[2] has proposed *early* tapping, as "a practice which may be *thought* of," in these cases, on the principle, that, as in the smaller cysts, the accumulation is less rapid, the patient would suffer less by the operation. He thinks that a puncture might be made into the tumour whilst in the pelvis, or an incision into the abdominal parietes might allow the finger to guide a trocar down the tumour.

3. In some cases an attempt has been made to obtain a cure by making an extensive incision into the ovary, and sometimes with success, although a fistulous opening remained (Ledran;[3] Houston;[4] Voisin;[5] Portal;[6] Delaporte[7]).

Analogous to this is the plan suggested by Dr. Blundell, who observes, "I have sometimes thought that in ovarian dropsy of a single cyst, and with encysted dropsies of aqueous consistency, a considerable palliation might, in some cases, be obtained by merely cutting out a piece of the cyst, so as to enable it to evacuate its contents into the peritoneal sac. Suppose I could not extirpate the ovary, provided I found the vessels were not large, I could easily remove a piece of it, say to the extent of a crown piece, and after this there might be a reasonable hope that this aperture would not close up again, but that the fluid would be effused through it, so as to come under the operation of the peritoneal absorbents, with the prospect of an occasional cure."[8] The great objection to this plan

[1] Pract. Obs. part i. p. 115.
[2] On Diseases of Women, p. 119.
[3] Mem. de l'Acad. de Chir. vol. iii. p. 431, 442.
[4] Phil. Trans. vol. xxxiii. p. 5.
[5] Recueil periodiq. vol. xvii. p. 381.
[6] Cours d'Anatomie, vol. i. p. 554.
[7] Mem. de l'Acad. de Chir. vol. ii. p. 452.

"In cases where the encysted fluid is too thick, or when it is contained in many distinct cells, Ledran advises that incision should be made in the lowest part of the tumour, and kept open by means of a tent. His intention is to destroy, by this means, the parietes of the tumour, and to procure a firm cicatrix. But this method is generally abandoned, because it was remarked that it accelerated the death of the patient.

"It has also been proposed to extirpate the ovary. But even if this were safe for a healthy woman, who would dare to attempt it when the ovary may be diseased? Must we not fear the gravest accidents? We conclude, then, that the extirpation, as well as the incision of the ovary, ought to be rejected as dangerous and inefficient."—Capuron, Mal. des Femmes, p. 187.

"It has been attempted to produce a radical cure by laying open the tumour, evacuating the matter, and preventing the wound from healing, by which a fistulous sore is produced; or by introducing a tent, or throwing in a stimulating injection. Some of these methods have, it is true, been successful, but occasionally they have been fatal; and in no case which I have seen have they been attended with benefit."—Burns' Midwifery, p. 142.

[8] On Diseases of Women, p. 118.

is the danger of exciting fatal peritonitis, which is fully as likely to happen as the gentler "operation of the peritoneal absorbents."

4. The complete extirpation of the ovary has not only been proposed, (first by Vanderhaar, and afterwards by Delaporte, Morand, Siebold and Logger,) but performed with success (Lizars;[1] Jeafferson;[2]

[1] Observ. on the extraction of the diseased Ovaria, Edin. 1825.

Prof. Lizars attempted the operation four times; in the first case, after the peritoneum was laid open, no tumour was found. In the second, he removed a diseased ovary, and the woman was nearly well at the end of ten weeks after the operation. The third case sunk fifty-three hours after the excision. The fourth case proved to be a solid tumour, having so many and such large vessels on its surface, that Mr. Lizars abandoned all idea of its removal. The patient recovered from the operation.

[2] Mr. Jeafferson, of Framlingham, had attended Mrs. B—— in her labour in Nov. 1833, and then discovered a tumour in the pelvis, which he succeeded in pushing above the brim of the pelvis so as not to impede delivery. She was delivered of another child on the 4th of March, 1836, without any difficulty, but after this the abdominal tumour increased so rapidly, that extirpation was determined on.

"Accordingly, on the 8th, in the presence of my friend, Mr. King, I made an incision of between 10 and 12 lines in the course of the linea alba, midway between the navel and the pubes, and having thus carefully exposed the sac, I evacuated, by the trocar, about twelve pints of clear serum. During the flow of the serum, a portion of the sac was secured in the grip of a forceps, to prevent its receding; and I afterwards gradually extracted the sac entire from the cavity of the abdomen, together with another sac containing two ounces of fluid, and indeed the entire ovary, having only to cut through a slight reflection of the peritoneum, and the ovarian ligament, which, with the exception of a small portion of the fimbriated extremity of the fallopian tube, are the only natural attachments of the ovary to the uterus. But as this part was the medium of vascular supply to the sac, and the vessels on the surface of the sac were unusually large, we thought it right to include it in a ligature previous to returning it into the cavity of the abdomen: the ends of the protruded ligature were cut off close to the knot. A very small portion of omentum protruded with the sac, but was very easily returned; the external wound was closed with two sutures, adhesive plaster, and a compress of lint; and by Mr. King's advice I gave immediately a pill containing two grains of powdered opium and a draught with a drachm of tincture of foxglove, keeping a napkin wrung out of the coldest spring water, constantly applied over the whole abdomen. In the night I gave doses of calomel and extract of henbane, and followed this by giving, every four hours, a solution of sulphate of magnesia in saline mixture."

Two days after the operation, the patient was attacked by vomiting, sinking, and pain in the thigh, but under Mr. Jeafferson's judicious treatment, she soon rallied.

"The sutures were removed forty-eight hours after the operation, when the wound was healed, except where the sutures had produced slight ulceration; the plaster and compress were re-applied, and saline mixture, with one drop of hydrocyania acid, was given every four hours." The woman, after this, did well, and has resumed her usual occupations. "There was not, at any period, the slightest interruption to the secretion of milk, and only a little shooting pain occasionally where the ligature was applied.

"Mr. King, of Saxmundham, has repeated this operation on a lady, when the ovarian sac was much more distended, and having evacuated 27½ pints of fluid, he extracted it entire, together with a tubercular tumour, the size of a turkey's egg. This lady has recovered without an unpleasant symptom."—Trans. of the Provincial Med. and Surg. Association, vol. v. p. 242, et seq.

Smith;[1] Ledran; Paroisse; Chrysmer;[2] Quittenbaum[3]). Morgagne,[4] Sabatier,[5] De Haen,[6] Murat, Lee, &c. disapprove of it. It does not appear to be attended with more danger than making a large incision into the tumour, and, if it succeed, the cure is far more satisfactory.

The greatest hazard unquestionably arises from the wound in the peritoneum, which must be large if the walls of the sac be thick and solid, or if its base be broad, as in Mr. Lizars' case. A great breadth of base, extensive adhesions, or large vessels, may altogether frustrate the attempt (as happened to Lizars, Granville,[7] and Dieffenbach[8]) or may render the operation partial, as in the case operated on by M. Martine, of Lübeck.

When the sac is simple, and its walls thin, the plan adopted by Mr. Jeafferson is much preferable; he drew out the sac and ovary through an opening not exceeding two inches in length.

Dr. Hamilton's objections to this operation are:—

"1. It is extremely difficult, as has been already shown, to distinguish enlargement of the ovary in its early stages; and it is still more difficult to foretell the progress of such enlargements; any operation might therefore be useless or unnecessary—useless if there be no disease; and unnecessary, if the disease be in a stationary condition.

2. There is always a risk, in cases of enlarged ovary, that there may be a complication of organic disease, or that morbid adhesions may have formed, connecting the disease with other parts.

3. As no prudent practitioner would think of operating unless the patient's health suffered, or seemed to suffer, from the disease, there must, in every such case, be the hazard of some malignant affection existing, which no operation could remedy."[9]

There are some conditions which are necessary to render the success of the operation even probable.

1. The patient must be in good health, for she is exposed to two great dangers—sinking and inflammation, and if her constitution be previously impaired, it would be needless to make the attempt.

2. There ought to be no adhesions between the enlarged ovary and the surface with which it is in contact. M. Jeafferson "considers it a 'sine quâ non' that the operation should be performed before adhesion takes place between the sac and adjacent viscera."[10]

[1] Ed. Med. and Surg. Journal, October, 1822.
[2] Archives Gen. de Med. vol. xx.
[3] Commentatio de Ovarii Hypertrophiâ et Historia Extirpationis Ovarii Hydropici et Hypertrophici prospero cum successu factæ, by Dr. Charles F. Quittenbaum, D. M. & C.
[4] Epistola 38, art. 70.
[5] Medic. Operat. tom. 2, p. 503.
[6] Rat. Med. tom. 2, p. 88.
[7] Archives Gen. de Med. tom. 14, p. 589.
[8] Ibid. vol. xx. p. 92.
[9] Pract. Obs. part. i. p. 120.
[10] Trans. of Prov. Med. and Surg. Association, vol. v. p. 244.

It is clear that with such adhesions the operation might prove abortive. But it is not always easy to ascertain whether they exist or not previous to operating. "Adhesions of the cyst to the abdominal coverings are, I believe, frequently indicated by soreness felt after moving the abdominal coverings over the cyst, and by a sort of crepitus, sometimes very distinct, arising probably from ruptured adhesive fibres."[1]

This crepitus is indicative of inflammation in serous membranes generally, it is present in certain stages of pleuritus, pericarditis (Collin; Stokes), and peritonitis (Beatty[2]), and therefore is a sign of value in the present question.

3. The base of the tumour must not be too large, or the wound will be so extensive as to place the patient in danger.

4. It should not be attempted when scirrhus is combined with the dropsy, because there is every probability of the disease not being thoroughly removed, and because the constitution of the patient will have been contaminated by the malignant disease, and so be rendered less able to bear the operation.[3]

The operation has hitherto never been undertaken until the last extremity, a time when severe wounds become doubly dangerous; but Dr. Burns suggests that the attempt should be made at a much earlier period, as being at that time less formidable, and the patient better able to bear it.[4]

[1] Blundell on Diseases of Women, p. 122.

[2] Dublin Medical Journal, vol. vi. p. 145.

[3] "When an extirpation of the ovary is under consideration, it behoves us to ascertain clearly, whether ovarian enlargement clearly exist, and to decide, moreover, whether the enlargement is, upon the whole, of the encysted kind, or a combination of dropsy with a massy scirrhus. Now, in many instances, the disease is so obvious, that the merest novice may detect it; but in some it is so obscure, that much and careful investigation is required."—"So that to sum up our observations on this important point, if we have reason to believe that the system is favourable for operation, and that the patient must soon perish if nothing be done—that enlargement of the ovary really exists beyond all doubt, and that there is no grave disease in the parts contiguous to the ovary, or no disease which may not be removed—that the ovary is wholly detached from the adjacent viscera, or in good measure, and that it is not affected with a massy scirrhus, likely to give rise to a broad basis,—we may be justified in operating, provided it be the wish of the patient; but when these conditions are wanting, it may be better to abstain. If women have been tapped often, or if they have suffered much inflammatory pain in the ovary, during the progress of the enlargement, the case will, I fear, be found very unfavourable for our operation, as adhesions are very probable."—Blundell on Diseases of Women, p. 118.

[4] "It has of late been proposed to extirpate the ovarium, after puncturing it, in order to reduce its size; or the operation may, on the same principle, be performed early, when the tumour is still small and movable; and this I should conceive to be a much more favourable time than after the ovarium had been allowed to acquire a great size. The operation is full of danger, but simple in its performance. We have only to make an incision into the abdomen, proportioned to the size of the tumour, and after tying a ligature around the pedicle, cut away the mass, replace the intestines, and stitch the wound. But how few patients could be expected to recover from this

As to the mode of operating, the abdomen (as in Lizars' case) may be laid open by an incision several inches in length, on one side of the linea alba, and the ovary separated by the knife after ligatures have been applied; or, as in M. Jeafferson's case, a short incision may be made into the peritoneum, and then, after the fluid is evacuated, the ovarian cyst may be drawn through the opening until the fallopian tube and uterine ligaments appear, when a ligature may be applied and the mass divided. The external wound should be carefully tended, and probably the simple water-dressing is the best application.

It may be well to give a large opiate after the operation; and any unpleasant symptoms which may arise must be treated promptly and actively.

Boivin and Dugès remark, "There are then fifteen cases, of which six have been attended with, at least, temporary success,—five with neither good nor bad results,—and four with death: in five cases the operation could not be completed. Extirpation will therefore be indicated only when the diagnosis is distinct, when the mobility and recent date of the tumour preclude the probability of adhesions, and when the absence of hardness, after examination by puncture, removes all fear of serious complication. Even then we should hesitate: but if we do decide upon the operation, the incision should be as small as possible, the sac evacuated by puncture, and drawn out in its empty state."[1]

I may conclude this chapter in the words of a distinguished author from whom I have largely quoted already—"Here then are the different modes of treatment recommended in ovarian dropsy—the abstraction of the water, with the cautions before prescribed—the extirpation of the ovary, in the earlier and later periods of its growth—the removal of a circular piece of the cyst, so as to lay open the cyst into the peritoneum,—and the prevention of the dilatation and growth by early paracentesis. In the present ill success of our practice, all these operations are well worthy your consideration; and if you can bring one of them to such perfection as to cure some of the unhappy individuals who now fall victims to the disease, you will, indeed, be conferring an invaluable good on the fairest and least offending part of our species."[2]

operation. It may be said they must die at any rate, while this gives a chance of complete recovery. True, but if performed early, we have a great probability of the patient dying in a few hours, whereas by palliatives she might have lived for many years. If delayed till a late period, the constitution is broken down, and the chance of recovery is still less."—Burns' Midwifery, p. 144.

[1] Diseases of the Uterus, &c. p. 475.

[2] Blundell on Diseases of Women, p. 120.

CHAPTER III.

TUMOURS (NOT MALIGNANT) OF THE OVARIES.

Fibrous tumours are found attached to, or imbedded in, the substance of the ovaries as well as in the uterus, though they are far less analogous in structure with the former than with the latter. They are often coincident in both organs at the same time (Cruveilhier).

In structure they are perfectly identical with those found in the uterus, so that as Cruveilhier[1] remarks, it is quite impossible to tell, by the most accurate anatomical examination, to which of the organs they have belonged.

If cut into, they exhibit the same dense fibrous tissue, traversed irregularly in every direction by white shining lines.

Dr. Baillie has described them very graphically: "The ovarium is much enlarged in size, and consists of a very solid substance, intersected by membranes, which run in various directions. It resembles, in its texture, the tumours which grow from the outside of the uterus, and I believe has very little tendency to inflame or suppurate."

They undergo also similar transformations into a cartilaginous[2] and osseous structure, to a greater or less extent. In some we find only patches of cartilage, or spiculæ of calcareous matter, but cases are on record of the greater part of the tumour being of a bony substance. (Kluiskens;[3] Saviard;[4] Schlenkes.[5])

We may sometimes observe patches upon the surface of the ovary, of a cartilaginous or osseous density, owing to a morbid alteration of the proper fibrous tumour of the ovary beneath the peritoneum (Boivin and Dugès).

The size of these tumours varies much—Cruveilhier says, from a few drachms to 30 or 40 lbs.; but Boivin and Dugès are inclined to refer these larger tumours to the class of scirrhus.[6] There can be no doubt, however, that their increase is very gradual, much more so than any other morbid product of the ovary.

In addition to tumours of a fibrous texture, we find others in the

[1] Nouv. Dict. de Med. et de Chir. pract. art. Ovaire.

[2] "The ovaries have been converted into hard, cartilaginous tumours, and some have occurred filled with fluid materials. "The ovarium is sometimes the seat of the sub-cartilaginous tumour; but so seldom, that I do not recollect to have seen more than one instance of it. The tumour was not larger than a hazel nut, and was surrounded by the proper tunic of the ovarium."—Hooper's Morbid Anat. of the Human Uterus, pp. 12 and 13.

[3] Annales de litt. Med. etrang. tom. 9, p. 336.

[4] Observ. Chir.

[5] Haller, disp. morb. vol. vi. p. 419.

[6] Diseases of the Uterus, &c. p. 478.

ovary consisting of tuberculous matter,[1] or of a darker substance, which is termed melanosis.[2]

But "scrofulous and tubercular disease of the ovary is very rarely met with. It is the least common of all the morbid alterations of structure to which the human ovaria are liable."[3]

Causes. These growths have been attributed to various causes, such as a peculiarity of constitution—blows, falls, &c. but in most cases we shall find it difficult, if not impossible, to trace the connection.

Symptoms. As these tumours do not degenerate into malignant disease, though they are sometimes concomitant with it, and as they are but rarely attacked by inflammation, they give rise to none but mechanical symptoms. While they remain in the cavity of the pelvis, they may press upon the neck of the bladder or upon the rectum, and occasion much trouble by impeding the evacuation of their contents. Numbness of one thigh and leg, and even œdema, may also result from the pressure upon the nerves and vessels.

If conception should take place without the elevation of the tumour, serious impediment may be offered to the passage of the child though the pelvis, necessitating either the removal of the tumour (which is almost impossible), or, if it be large, the perforation of the child's head.

When it is above the brim of the pelvis, it occasions no annoyance, nor does it interfere with the duration of the patient's life.

Diagnosis. An examination "per rectum" will convince us that the tumour (if it be not large) is in the ovary, and so distinguish it from a *fibrous tumour* of the uterus; besides, the elevation of the os uteri does not correspond with the results of abdominal manipulation.

From *scirrhous or cancerous tumour of the ovary*, it will be distinguished by the good state of health of the patient, by the freedom from pain, and by its equable density.

Treatment. We must apply ourselves to relieve the mechanical inconvenience by catheterism and enemata whilst the tumour is in the pelvis, and in some cases we can afford complete relief by pushing it up beyond the brim of the pelvis.

When in the cavity of the abdomen, no treatment will be necessary unless in those very rare cases where the tumour is attacked by inflammation, and which will require the employment of antiphlogistics.

[1] Boivin and Dugès, Diseases of the Uterus, &c. p. 478. Atlas, pl. 16.
[2] Ibid. p. 485, case. Atlas, pl. 33, 37.
[3] Dr. Robert Lee, Cyclop. of Pract. Med. art. Diseases of the Ovaria.

CHAPTER IV.

MALIGNANT DISEASE OF THE OVARIES.

Scirrhus, cancer, or fungus hematodes, is unquestionably the most serious disease to which the ovaries are exposed, and it is by no means very uncommon. It is more frequent than cancer of the breast, and nearly as much so as cancer of the uterus.

It does not appear so much confined to advanced age as the last named disease. Boivin and Dugès[1] say that it is the most frequent during the middle period of female life, and Dr. Carswell found an ovarian tumour, of a malignant character, as large as the gravid uterus, in the body of a female under 20 years of age.[2]

There are at least two species of malignant disease observed in the ovary. One resembling *true scirrhus* before any softening has taken place, and the other analogous to *fungus hematodes* or *cerebriform* matter.

The two forms, moreover, may coexist, and they may either be primary or consecutive to a similar disease of the uterus.

1. *Scirrhus.* This tumour is hard and pretty nearly homogeneous. Its surface is uneven and tuberose, and when cut into, it presents the appearances which were described when treating of cancer uteri,[3] and which therefore I need not repeat.

It may remain some time in its hard state, but ultimately central softening will take place.

Dr. Baillie saw a case where softening had commenced, and the preparation is in the museum of the College of Physicians, London. The disease of the ovary was coincident with cancer of the stomach.

2. *Fungus hematodes or encephaloid.*[4] The structure of this

[1] Diseases of the Uterus, &c. p. 484.

[2] Lee Cyclop. of Pract. Med. art. Diseases of Ovaria.

[3] "Cancer may be developed in the ovaries, and run through all its stages. Occasionally it is hard and scirrhous, acquiring double or triple its ordinary volume; in others, it is a state of latent suppuration, terminating by ulceration. These form, in the neighbourhood, dilatation of the veins, and a deposition of cartilaginous and osseous substance."—Nauche, Mal. prop. aux Femmes, vol. ii. p. 623.

"Of the two forms of disorganisation mentioned, it is, I apprehend, the *tuberose* which most frequently attacks the ovary, and therefore when this viscus is enlarged frequently, it is the bumpy or tuberose surface which characterises the disease; sometimes, however, the scirrhous change is of the *diffused* kind, the whole mass of the ovary enlarging and the surface remaining equable and smooth. "The rapidity, also, with which the enlargement takes place is liable to much variety, though if the disorganised ovary be composed of solid materials only, without dropsy, the growth will, I believe, be generally slow; months it will certainly occupy, and more frequently years."—Blundell on Diseases of Women, p. 96.

[4] See Seymour's Illustrations, pl. 12, 13, 14. pp. 66, 70, 74.

Dr. Seymour has described two varieties. The first consists "of numerous cysts, with more or less fluid contents, sometimes with bony or earthy matter contained in them; often a fatty secretion, resembling lard; sometimes penetrated with long fine hair, without bulbs; but more frequently filled with

tumour is more varied than that of scirrhus, a part being often fibrous, cartilaginous, or calcarious,[1] and the remainder fungous or brain-like,[2] or with coloured fluid contained in cells.

If blood be effused, the tumour will answer to the description of hæmatoma given by Dr. Hooper.[3]

In the case related by Cruveilhier, it was identical in structure with a coincident cancer of the stomach.

The tumour varies in size, being generally, however, larger than in pure scirrhus; in some cases it is very large[4] (Morand), and of

albuminous secretion of varying tenacity and colour. Sometimes these secretions resemble gruel in appearance: there is often matter like soot mixed with the fluid. At other times, the secretion is of the colour of mahogany from admixture of blood; and not unfrequently the liquid evacuated from one of these cysts, by the trocar, resembles, in consistence and colour, the medicine well known under the name of Griffith's mixture.

Secondly, a single large cyst springs from the ovarium, and contains within it tumours varying from the size of a pin's head to that of an orange. Sometimes the great portion of the parietes of the cyst consists of tumours, growing between the external and internal or secreting coat, the interior of the cyst having the tumours projecting into it, being filled with fluid secreted from the serous lining. The tumours, when cut into, present a semi-fluid gelatinous substance, with white bands running through it, between which bands are smaller cysts, containing the same viscid, glue-like matter."—On Diseases of the Ovaria, p. 60.

[1] Andral observes, "Sometimes these masses are formed of fibrous, cartilaginous, or osseous tissue; in other cases, they are almost entirely composed of encephaloid matter. The walls of the cyst are thick, and their cavities gradually enlarge until a tumour is formed, which fills not only the epigastrium, but the whole abdominal cavity. The outer surface of the tumour is unequal; in some points a fluctuation can be felt, while in others it has a hardness and density equal to bone."—Precis. d'Anat. Pathol. vol. iii. p. 708.

[2] "Sometimes the ovarium is affected with encephaloid disease, or is converted into a large irregular shaped mass of cysts and tumours, the section of which presents all the characters of hematoid fungus. This fatal affection usually runs its course with great rapidity; and soon after its commencement, the constitution of the patient is much more affected than in the organic diseases of the ovaria which have already been described."—Lee, Cyclop. of Pract. Med. art. Diseases of the Ovaria.

Cephaloma "is not often found in the ovarium. I have seen only one instance of it. In this, the whole of the uterus was a cephaloma; the ovarium about twice its natural size, and cephalomatous."—Hooper's Morbid Anatomy of the Human Uterus, p. 16.

[3] "Hæmatoma of the ovarium is of very rare occurrence. The drawing I have given of one (pl. 9.) is, however, a very fine example of it. I have seen only two others which were not so large; and I am disposed to think that when hæmatoma takes place in this organ, the ovarium soon after becomes hygromatous, and that as the cells enlarge, they compress and stop the fungous growth; for masses of flesh mostly spongy and of a mixed character, are frequently found in and about ovarian sacs."—Hooper's Morbid Anatomy of the Human Uterus, p. 17.

[4] "In plate 39 of the Atlas, there is a figure of one of the ovaria considerably enlarged, the substance of which was lardaceous, though beset with small granulated cysts, and surrounded with vesicles of a larger size and filled with fluid; whilst the other ovarium was of a cartilaginous consistence, resisting the scalpel and presenting numerous roughnesses. A tumour

course as it increases the cavities dilate, so that some fluctuation can be detected. The parietes vary very much in thickness.

The rapidity with which it increases is much greater in this than in the former variety.

Either species may exist in a quiescent state for some time, or may be attacked by inflammation, abscess or dropsy. As a consequence of inflammation, the diseased organ may contract adhesions, which may seriously affect the comfort of the patient, and the progress of the disease. If this take place whilst the tumour is in the pelvis, it cannot rise above the brim, but the mechanical symptoms will increase.

The deposition of cancerous matter in the ovary is very often accompanied by a similar state of other organs, as the pylorus, lymphatic glands, &c. (Seymour[1]). Cruveilhier mentions a case where it was coincident with a cancerous state of the stomach,[2] and such a case occurred to Dr. Baillie, as has already been mentioned.

Causes. These are extremely obscure, there may be occasionally some connection with gestation (Lee), but as it is found even more frequently in virgins, this cannot be considered as an extensive cause.

It may follow chronic inflammation (Boivin and Dugès), though Logger does not admit this.

Capuron[3] attributes it to abortion or the suppression of the lochia.

It has been known to follow external violence, such as a fall, a blow, &c. (Velter; Capuron).

Symptoms. If the disease be confined to one ovary, menstruation may continue regularly, but it will be suppressed if both organs are involved.

Instances are on record of conception having taken place after the development of malignant disease in one ovary; and in such cases danger may be incurred during delivery, if the enlarged viscus have not ascended into the abdomen.[4]

As I have already observed in the case of other ovarian tumours, the symptoms differ much according as they occupy the pelvis or the abdomen.

In the former case they are chiefly mechanical, and arise from the pressure exercised upon the rectum and neck of the bladder, with a numbness along the limbs from pressure upon the nerves.

But few symptoms originate in the state of the tumour itself, until

was seen by Dr. Velter (Acad. de. Med. 12th July, 1825) weighing 56 pounds, and of a consistence almost cartilaginous; in three parts, however, it was softened, and resembled the substance of the brain. The encephaloid substance was more distinctly characterised in a case of enormous cancer, of 75 pounds weight, which occupied the left ovarium; it contained within, a fibrous, fleshy mass and a fatty tissue."—Boivin and Dugès, Diseases of the Uterus, &c. p. 479.

[1] On Diseases of the Ovaria, p. 61. case, p. 76.

[2] Anat. Path. 5me. Livr.

[3] Mal. des Femmes, p. 164.

[4] See Mr. Hewlett's case, Med. Chir. Trans. vol. xvii.

it rises into the abdomen, and until softening takes place, unless indeed it be previously attacked by inflammation: the symptoms will then assume an acute character. After this period, it is undoubtedly true, as Dr. Seymour observes, that "these diseases frequently lead to a rapidly fatal termination, and are accompanied by that extreme sense of debility and bloodless appearance of the body, so characteristic of malignant disease."[1] Again, "The malignant form of the disease may be recognised during life, by the want of nutrition, the broken health of the patient, the uneasiness and rapid growth of the tumour, the simultaneous enlargement of glands in other parts of the body, and the occasional occurrence of lancinating pains in the parts. The latter symptom is not constant. The pulse is quick and feeble, and as the disease proceeds there is hectic fever, and often aphthæ in the mouth, with an inexpressible sense of debility."[2]

The vicinity of the diseased mass may give rise to increased action in the peritoneal membrane and effusion into the abdominal cavity.

The interval which elapses before the development of the constitutional symptoms, varies very much, but sooner or later, fever sets in, with thirst, quick pulse, wasting, &c.[3] and ultimately carries

[1] On Diseases of the Ovaria, p. 62.

[2] Ibid p. 63.

[3] The following cases illustrate the cause of the disease perfectly :—

"Mad. B. small and thin, yet of general good health, had a return of the uterine discharge in her seventy-second year; this discharge was one day so abundant, as to induce syncope, and extreme debility. I was consulted in Dec. 1831, and discovered, on examination, that the cause of the hemorrhagies was not, properly speaking, in the uterus, but in its vicinity: between that organ and the bladder there was a very voluminous, hard, indolent tumour, which pushed the uterus backwards, compressed, and irritated it: this was, doubtless, the cause of the hemorrhagies. The uterus was rather tender, and its cervix widely open. The tumour could be felt, and its progress traced, above or rather behind, the pubes. Eighteen months afterwards, the patient complained of pains in the abdomen, dyspepsia, &c. On a second examination, I discovered that the tumour was no longer in the pelvis, but entirely in the abdomen, on a level with the umbilicus and near the right iliac fossa; it appeared to be at least as large as the fœtal head and of a globular form. I considered these changes favourable, as the uterus was less irritated than before, and the hemorrhagies were less frequent, and in smaller quantities; but in other respects I was disappointed, for the tumour, which had so increased in volume and changed in form as to rise above the brim, caused uneasiness to the other abdominal viscera: the abdomen rapidly became more tender and tumified, the legs swelled, the strength diminished, &c. Dr. Caisso observed there was ascites, produced by the scirrhous congestion of the right ovarium: I thought it yet possible to check the progress of the chronic peritonitis with which it was evidently complicated, as was proved by fever, thirst and tenderness of the abdomen. The advanced age of the patient forbad the use of powerful antiphlogistics; we therefore prescribed the hip bath, cataplasms, enemata and a reduced diet. This treatment only arrested for a short time the fatal termination of the disease."—Boivin and Dugès, Diseases of the Uterus, &c. p. 484.

"About five years ago, we examined, with Dr. Merriman and Mr. Prout,

off the patient, unless an earlier termination be occasioned by softening of the tumour, and evacuation of its contents into the peritoneum.

The softened substance has been known to escape through an opening into the intestines (Boivin and Dugès), bladder, vagina, &c. (Capuron).

A *vaginal* examination will detect the enlarged ovary so long as it remains in the pelvis, and afterwards abdominal manipulation will generally clear away the chief difficulty. We may either find the tumour above the brim in one of the iliac fossæ, about the size of a fœtal head, or occupying the lower portion of the abdomen, but inclining rather to one side. Its surface is felt to be tuberose, and its structure dense and unyielding. The upper part of the abdomen, on the contrary, will be soft, and occupied by the intestines.

Diagnosis.—It will not do to rely too strongly upon the presence of a tumour near one ilium, as that may arise from a collection of fecal matter in the cœcum:[1] so long as the tumour is quiescent, will be difficult to distinguish between one that is malignant in its nature, and one that is not.

1. From *ovarian dropsy*, both scirrhus and encephaloid may be distinguished by their greater hardness and compactness, by the absence of fluctuation generally, and by their lobulated tuberose surface.

2. From *pregnancy*, by the hard lobulated surface, and by the absence of the audible signs of pregnancy.

3. *From fibrous tumours of the uterus*, by the greater size which malignant tumours generally attain (Boivin and Dugès), by their not being pediculated, but more movable, at least during the early stages; and, in an advanced stage, by the lancinating pain and constitutional distress.

4. It has been mistaken for *disease of the spleen*, when very large

the body of a woman about 30 years of age, who had died from malignant disease of the right ovarium a few days after parturition. In the fourth month of pregnancy she began to suffer from a constant sense of uneasiness in the hypogastrium, irritability of the stomach; the countenance became sallow, and the constitutional powers greatly reduced. The abdomen not long after began rapidly to enlarge, and before the end of the seventh month, it had attained the size it usually acquires at the full period of pregnancy. An enormous cyst which contained a dark coloured gelatinous fluid, was found on dissection adhering to the right ovarium, and within this cyst were observed a number of tumours of different sizes and shades of colour, which, when opened, presented the true encephaloid or hematoid fungus character."—Lee, Cyclop. of pract. Med. art. Diseases of the Ovaria.

[1] "We have met with a case of a young person, habitually constipated so as to occasion heat and pain in the large intestines; a physician declared that one of the ovaria was enlarged, in consequence of a tumour which was felt on examination; this tumour disappeared and reappeared alternately,—events probably owing to fecal masses accumulated in the cœcum, and then passed further down in the intestines or evacuated."—Boivin and Dugès Diseases of the Uterus, &c. p. 481.

(Boivin and Dugès), but an investigation of the history of the case, with careful abdominal manipulation, and an examination *per vaginam*, will clear up all doubt.

5. The distinction between the *two forms of malignant disease*, may in some cases be desirable, for inasmuch as one is the early, and the other the more advanced stage, the patient's prospects of life are longer with scirrhus than with fungoid disease. Now these are the chief differences. Scirrhus is of a slow growth, giving rise to mechanical symptoms, and perhaps to a disturbance or irregularity of the catamenia, but to no pain or constitutional suffering. Encephaloid disease or fungous hematodes, on the contrary, increases rather rapidly, is more painful and tender, gives rise to fever, emaciation, and other constitutional symptoms (Boivin and Dugès).

Dr. Seymour observes, very justly, that the coexistence of fungoid or cancerous disease of the breast, pylorus, or cervix uteri, will elucidate completely the nature of the ovarian affection.

Treatment.—If the tumour occasion distress in the pelvis, we may (as I have observed) obtain some relief by pushing it above the brim.

Active medicines are exceedingly injurious, as they rouse into action parts which it is our object to keep quiet. Iodine has been tried, but it is, rather from its general effects, than from its success in this disease, that a further trial is recommended.[1]

In truth, we possess no power of controlling the disease; all we can do in the advanced stage is, to avoid all irritating causes, and to afford relief from the pain by narcotics.

As for excision, which has been proposed, it could never be advisable, for at the advanced period, at which alone so formidable an operation would be justifiable, the patient's whole constitution is contaminated by the cancerous diathesis.

CHAPTER V.

DISPLACEMENTS OF THE OVARY.[2]

The displacements to which the ovary is obnoxious are not generally of much consequence, the more frequent kind being merely accompaniments or consequences of disease or displacement

[1] Dr. Seymour remarks of this medicine, "Many cases have been published of its success, where too short a time had elapsed since the apparent diminution of the tumour to allow of any accurate conclusion being drawn, and, on the whole, I am inclined to think that its efficacy has been greatly overrated. Iodine is an active stimulant, and appears to me only applicable in those diseases of the ovarium, or such states of them, as are unaccompanied by inflammation."—On Diseases of the Ovaria, p. 116.

[2] The reader is referred to the excellent "memoire" of M. Deneux on the Displacement of the Ovary.

of the uterus, and so surpassed by a greater evil; and the more serious ones being ordinarily congenital.

We may divide them into two classes, those in which the ovary remains within the pelvic cavity, and those where it escapes externally.

1. Any change which augments the weight of the organ, will depress it below its natural level in the pelvis; such, for instance, as congestion, encysted dropsy, hydatids, or tumours of the ovarium; and, on the other hand, if the bulk of these adventitious deposits be much augmented, so as to raise the organ from the pelvis into the cavity of the abdomen, then the ovary will be elevated above its natural level. This is the case also in pregnancy.

The symptoms of the former are merely mechanical, and have been already described. They disappear when the tumour rises above the brim of the pelvis, and this mitigation we may often obtain by art.

A different class of secondary displacements results from deviations from the normal situation of the uterus. Anteversion and retroversion both disturb the natural situation of the ovary, but this is much more remarkable in prolapse and inversion of the womb. In the latter case, they often fall into the sac formed by the inverted organ.

I have already said that these are generally temporary displacements; but occasionally, whilst displaced, the ovaria form adhesions to the neighbouring viscera, and are thus retained permanently in their abnormal situation (Cruveilhier[1]).

All the *treatment* which can be adopted in these cases (when any is necessary,) has already been fully described when considering the several diseases which act as causes.

2. When the ovary escapes out of the pelvis, it forms a proper hernia of the organ. It is not of very frequent occurrence. The ovary may be displaced in hernia of the uterus, or it may form a hernia itself, alone, or with its fallopian tube, and sometimes a portion of intestine (Soranus; Bessiere). It may be either healthy or diseased, but there is generally some congestion. It has escaped through the umbilical ring (Camper; Portal[2]), through the ischiatic notch (Camper;[3] Papen), through the crural arch (Deneux; Nauche), but more frequently than all, through one or both inguinal rings (Pott;[4] Balin; Lassus; Billard; Nauche). Deneux

[1] Nouv. Dict. de Med. et de Chir. prat. art. Ovaire.

[2] Anat. Med. vol. v. p. 556.

[3] De Pelvi, lib. 2, cap. 2, p. 17.

[4] The following is Mr. Pott's case:—

"A healthy young woman, of twenty-three years of age, was taken into Bartholomew's Hospital, on account of two small swellings, one in each groin, which for some months had been so painful that she could not do her work as a servant. The tumours were perfectly free from inflammation, were soft, unequal in their surface, very movable, and lay just on the outside of the tendinous opening in each of the oblique muscles, through which

considers the latter cases as always congenital, and Cruveilhier has seen it very often in old women.

Occasionally, the ovary descends into the one of the labia majora, and bears a strong resemblance to the testicle in the scrotum (Cruveilhier).

Lastly, the ovary has escaped through an opening into an abscess of the abdominal parietes (Ruysch).

Sometimes ovarian inguinal hernia gives rise to considerable distress, the patient complains of pain [redacted]ging sensation, increased much upon walkin[redacted]

If we examine about the inguinal ring, we shall find a small tumour underneath the skin, like a gland, which does not give rise to any change of colour in the skin. When touched, the pain is much worse, and seems prolonged to the uterus.

It is rarely reducible.

"The *diagnosis* of this affection will probably be indistinct, particularly in cases of tumefaction, inflammation, morbid structure, and adhesion. The ovarium retaining its usual form, consistence, volume, and mobility, and situated in front of the inguinal ring, would, on the contrary, be with difficulty mistaken in the present day, especially in thin persons. Congestion of the inguinal glands never occurs in this situation, but rather towards the middle of the groin; and the glands sooner become fixed. Ovarian hernia is characterized and distinguished from enterocele and epiplocele, by draggings in the hypogastrium and loins, when the patient moves; and by the absence of borborygmi, cholic pains, and draggings of the stomach. According to Lassus, one of the most distinctive signs is, the correspondence of the movements impressed upon the uterus by the finger introduced into the vagina or rectum, with those which are felt in the tumour itself by the patient or the practitioner."[1]

they seemed to have passed. The woman was in full health, large breasted, stout, and menstruated regularly; had no obstruction to the discharge per anum, nor any complaint, but what arose from the uneasiness these tumours gave her when she stooped or moved so as to press them. She was the patient of Mr. Nourse. He let her blood, and took all possible pains to return the parts through the openings, through which they had clearly passed out. He found all his attempts fruitless, as did also Mr. Sainthill and myself; and the woman being incapacitated from getting her bread, and desirous to submit to any thing for relief, it was agreed to remove them. The skin and adipose membrane being divided, a fine membranous bag came into view, in which was a body so exactly resembling a human ovarium, that it was impossible to take it for any thing else. A ligature was made on it, close to the tendon, and it was cut off. The same operation was done on the other side, and the appearance, both at the time of operating, and in the examination of the parts removed, was exactly the same. The young woman has enjoyed good health ever since, but is become thinner and apparently more muscular; her breasts, which were large, are gone; nor has she ever menstruated since the operation, which is now some years."—Pott's Works, third edit. vol. v. p. 184.

[1] Boivin and Dugès, Diseases of the Uterus, &c. p. 454.

Perhaps some assistance may be derived from the monthly increase of the tumour, arising from the enlargement which we know takes place in the ovaries at each catamenial period.

Treatment.—An attempt of course must be made to reduce the hernia, though it will often fail. If so, and if there be symptoms of strangulation, we must have recourse to the operation for strangulated hernia, and, after relieving the stricture, we may return the ovary into the abdomen, and apply a compress and bandage (Nauche[1]), or content ourselves with the relief of the strangulation without interfering with the displacement.

In irreducible cases we have still the power of removing the ovary altogether, as was done by Mr. Pott.

[1] Mal. prop. aux Femmes, vol. i. p. 127.

THE END.

Narcotics

Alkohol, Ether, Camphor, Opium, Hyoscyamus, Belladona, Aconitum, Cicuta, Digitalis, Nicociana, Flamula Jovis, Lactuca Virosa, Stramonium, Arnica, Nux Vomica, Lauro Cerasus.

Antispasmodics

Moschus, Castoreum, Ol. Animal, Sal. Corn. Cerv., Asafoetida, Sagapenum, Galbanum, Valeriana Sylv. Crocus.

Narcotics used as Antispasmodics

Ether, Camphor, Opium.

Tonics used as Antispasmodics

Ferrum, Hydrargyrus, Cinchona.